

100

2

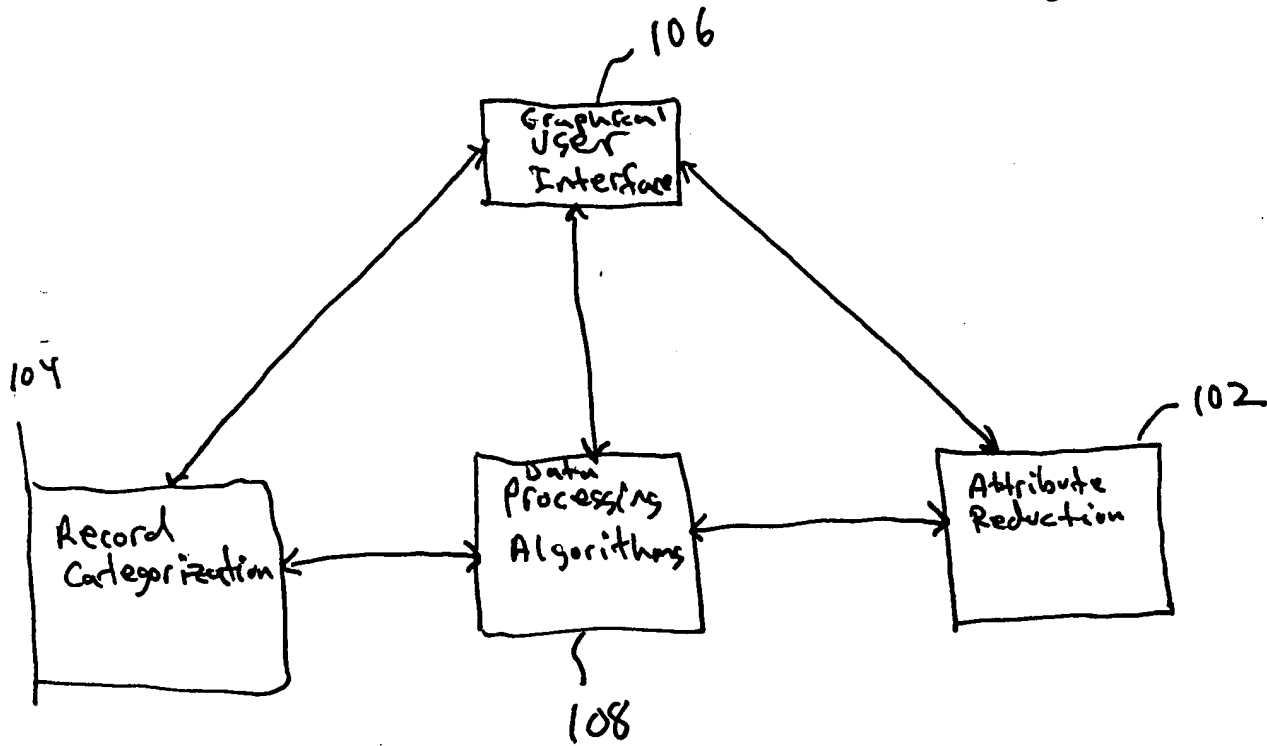


Figure 1

100764-0349

200

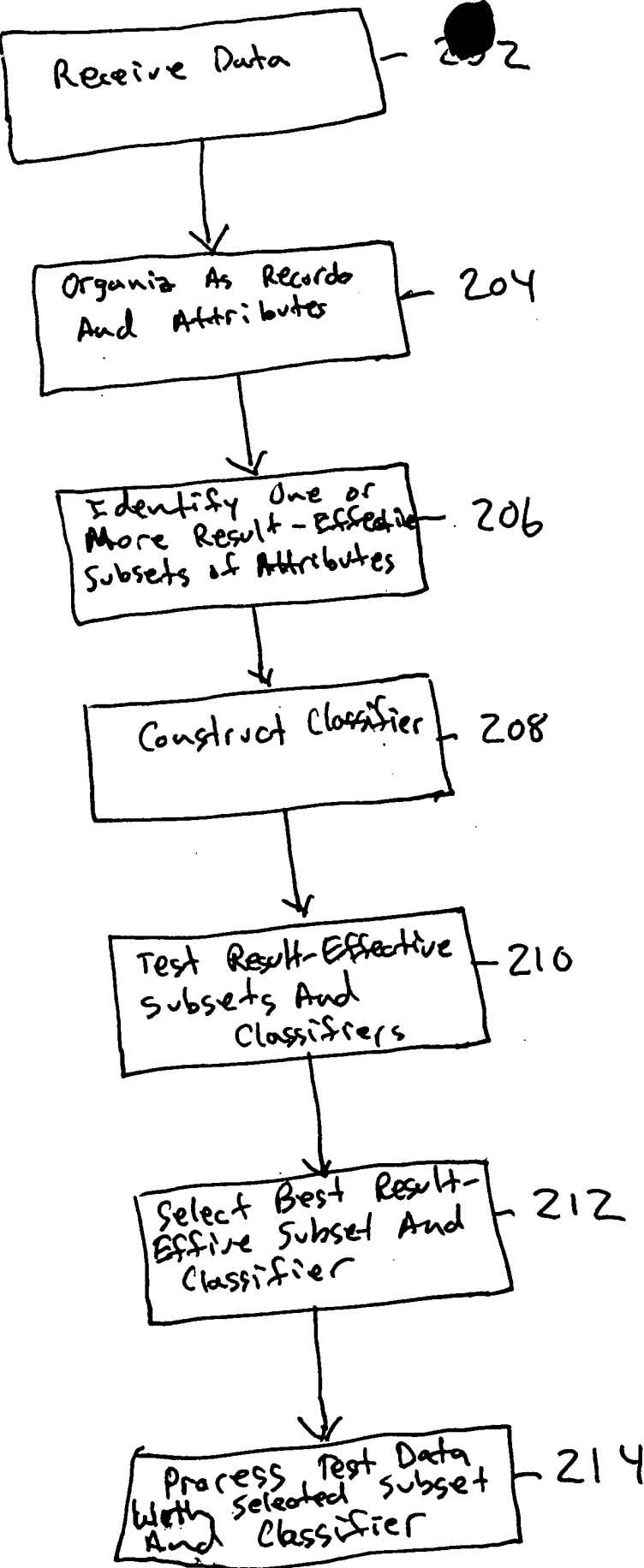


Figure 2

2218917

302

Variable 16
Variable 15
Variable 14
Variable 13
Variable 12
Variable 11
Variable 10
Variable 9
Variable 8
Variable 7
Variable 6
Variable 5
Variable 4
Variable 3
Variable 2
Variable 1

Variable 16
Variable 15
Variable 14
Variable 13
Variable 12
Variable 11
Variable 10
Variable 9
Variable 8
Variable 7
Variable 6
Variable 5
Variable 4
Variable 3
Variable 2
Variable 1

Record 1

308

Figure 3

306

Record n

302

400

1.

402

402a 402b 402c

2218917

Variable 2

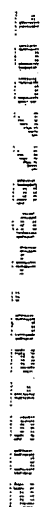
Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	Variable 6	Variable 7	Variable 8	Variable 9	Variable 10	Variable 11	Variable 12	Variable 13	Variable 14	Variable 15	Variable 16
B	D	F	1.99	20.80	86	B	1.98	1.60	A	0.30	1.53	1.95	0.95	3.33	495
A		B	2.21	16.00	96	D	2.65	2.33	A	0.26	1.98	4.70	1.04	3.59	1035
B	D	F	1.94	19.00	92	B	2.36	2.04	A	0.39	2.08	2.70	0.86	3.02	312
A		A	2.67	18.60	101	C	2.80	3.24	B	0.30	2.81	5.68	1.03	3.17	1185
A		B	2.70	22.50	101	C	3.00	3.25	A	0.29	2.83	5.70	1.19	2.74	1233
B	D	E	2.42	22.00	86	B	1.45	1.25	A	0.50	1.63	3.60	1.05	2.65	450
B	D	F	2.12	19.00	80	B	1.65	2.03	B	0.37	1.63	3.40	1.00	3.17	510
A		B	2.55	18.00	98	C	2.45	2.43	A	0.29	1.44	4.25	1.12	2.51	1105
A		C	2.60	17.20	94	C	2.45	2.99	A	0.22	2.29	5.60	1.24	3.37	1265
B	D	F	2.17	21.00	85	B	2.60	2.65	B	0.37	1.35	2.76	0.86	3.28	378

LOW HIGH

Figure 4B

2218917

306



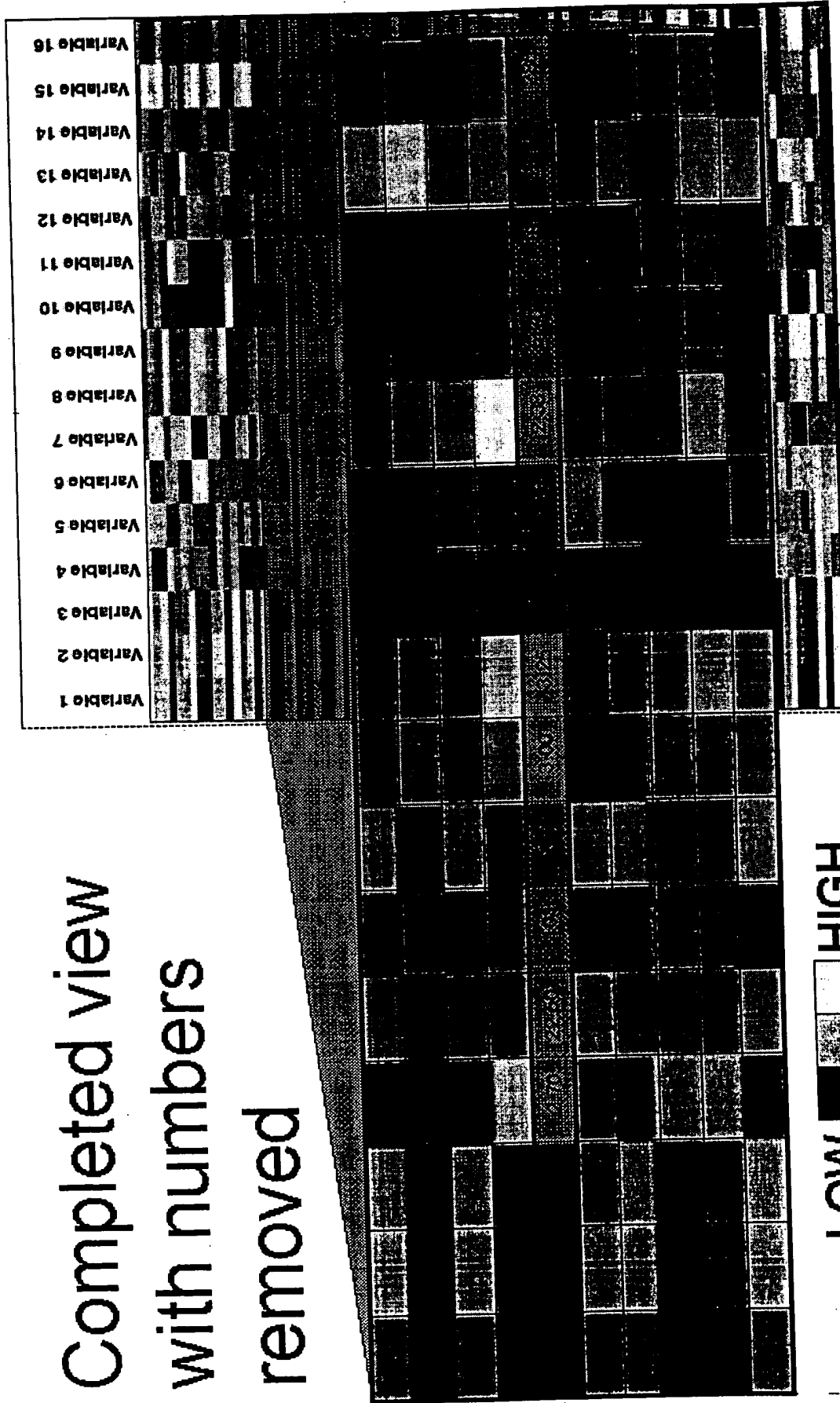
205120 4694001

304

Completed view
 with numbers
 removed

400

308



LOW HIGH

402

402a 402b 402c

306

Figure 4D

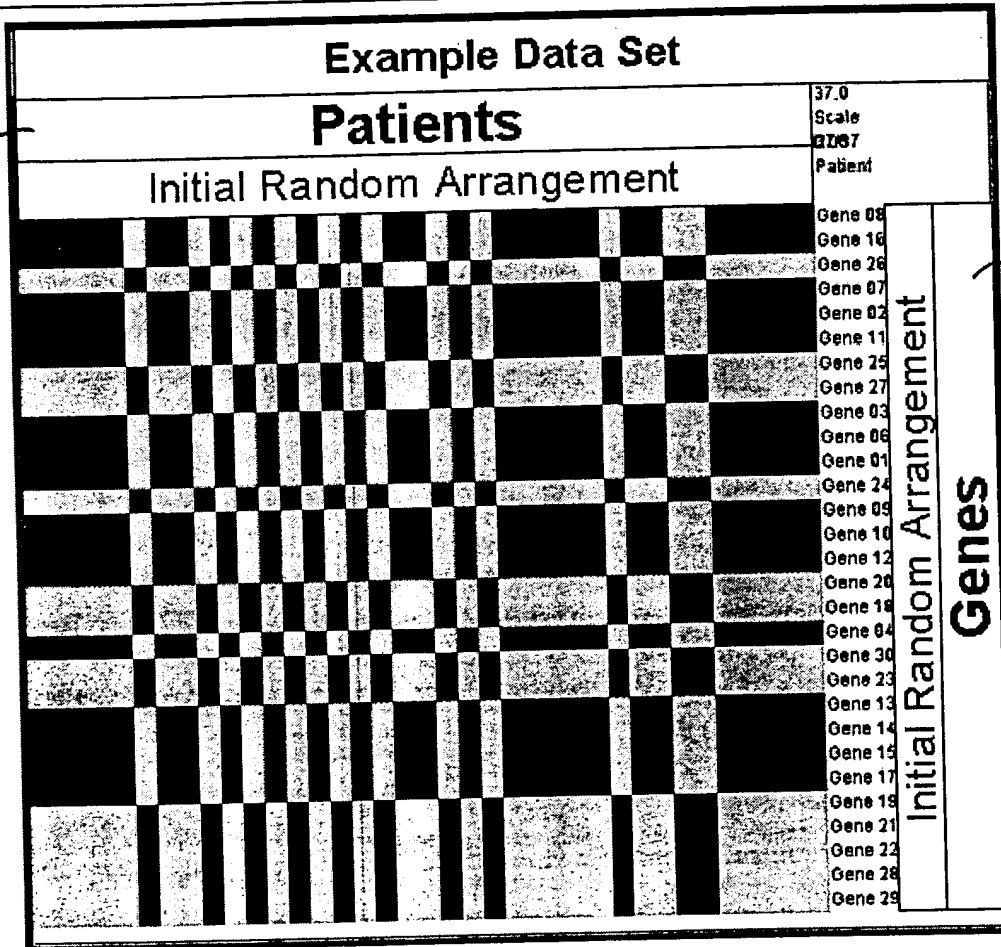
2218917

Ideal Case

Random

500

502



504

Figure 5A

Ideal Case

Sorted by Patients

500

502

Example Data Set		
Patients		37.0 Scale
ALL	AML	5337 Patient
		Gene 08
		Gene 16
		Gene 26
		Gene 07
		Gene 02
		Gene 11
		Gene 25
		Gene 27
		Gene 03
		Gene 06
		Gene 01
		Gene 24
		Gene 09
		Gene 10
		Gene 12
		Gene 20
		Gene 18
		Gene 04
		Gene 30
		Gene 23
		Gene 13
		Gene 14
		Gene 15
		Gene 17
		Gene 19
		Gene 21
		Gene 22
		Gene 28
		Gene 29

Initial Random Arrangement

Genes

504

506

508

Figure 5B

2218917

Ideal Case

Grouped on Genes

500

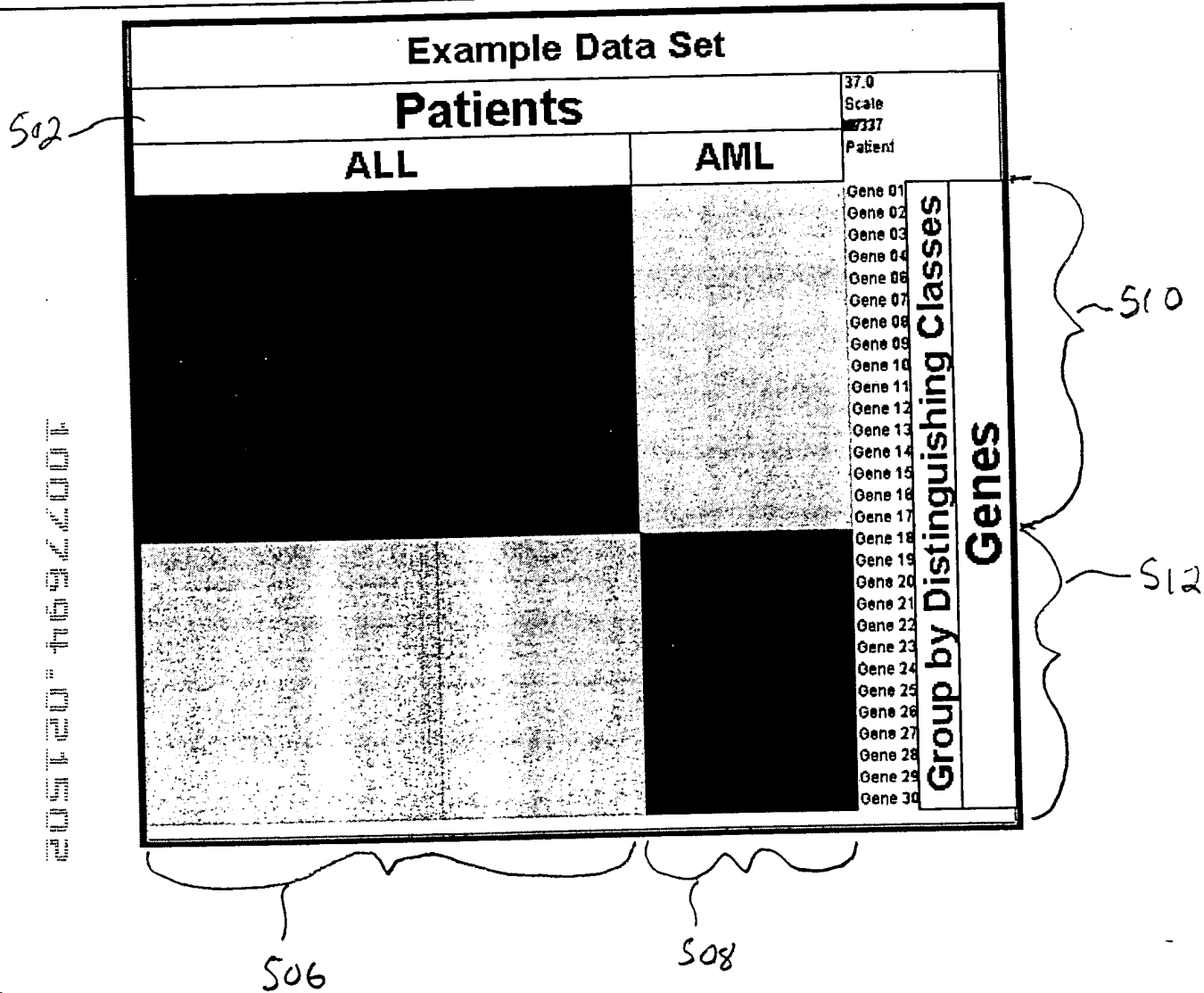


Figure 5C

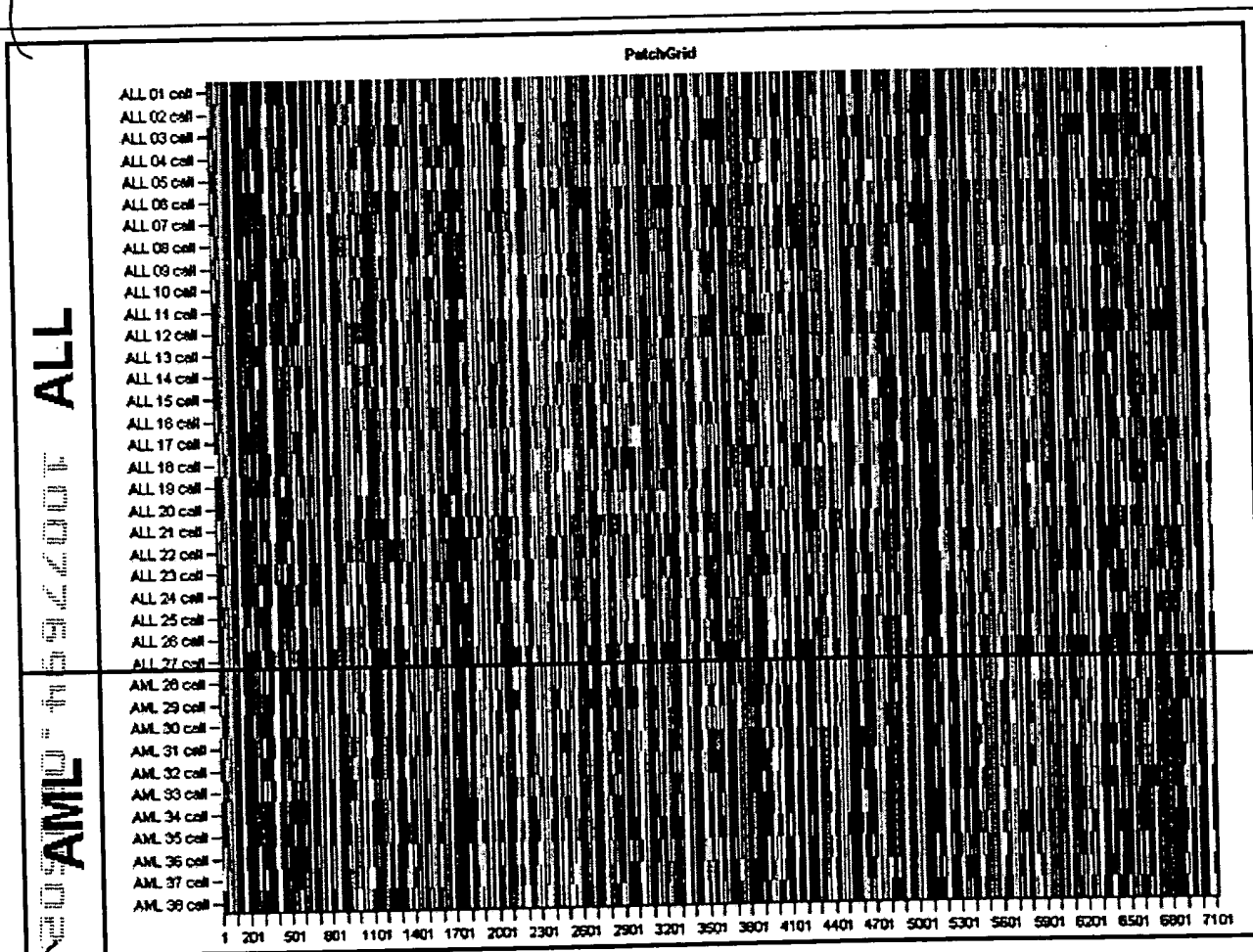
2218917

5 C

Random

600

606



ALL
AML

608

602

604

Figure 6A

2218917

5A

12/17/01

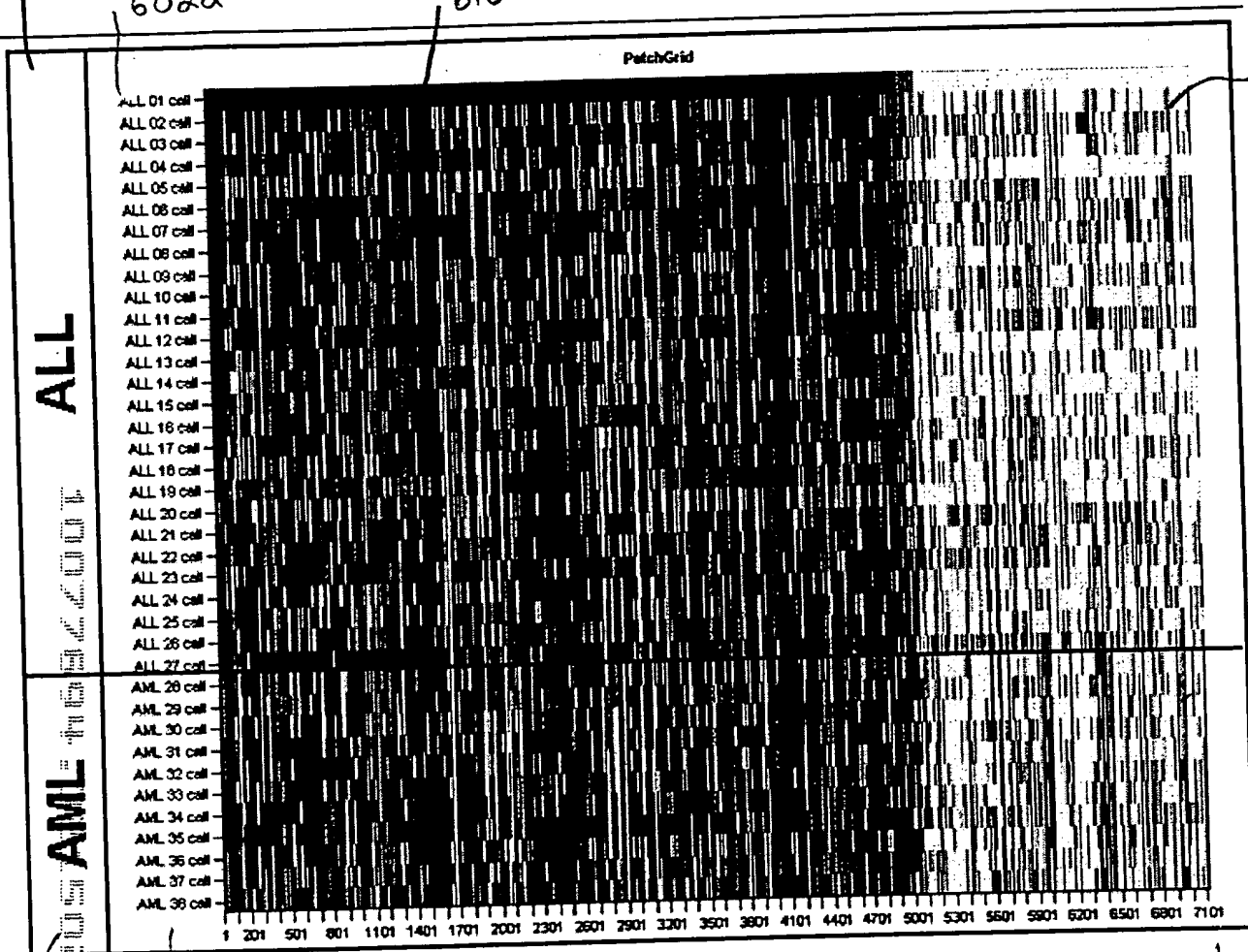
600

Sort 1st Dimension

606

602a

610



612

Figure 6B

2218917

63

12/17/01

600

Sort 2nd Dimension

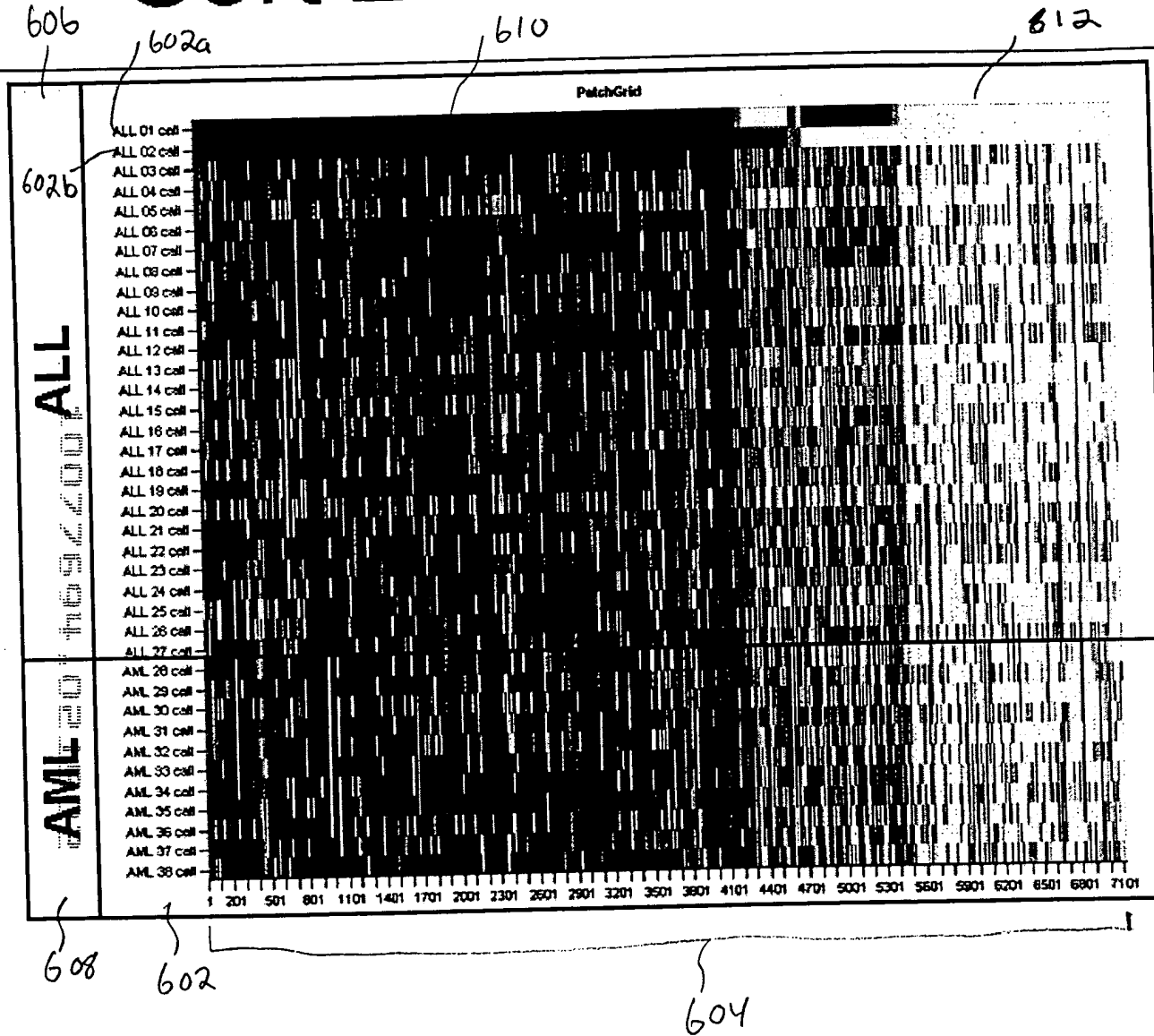


Figure 6C

2218917

6C

12/17/01

Sorted 5 Dimensions

600

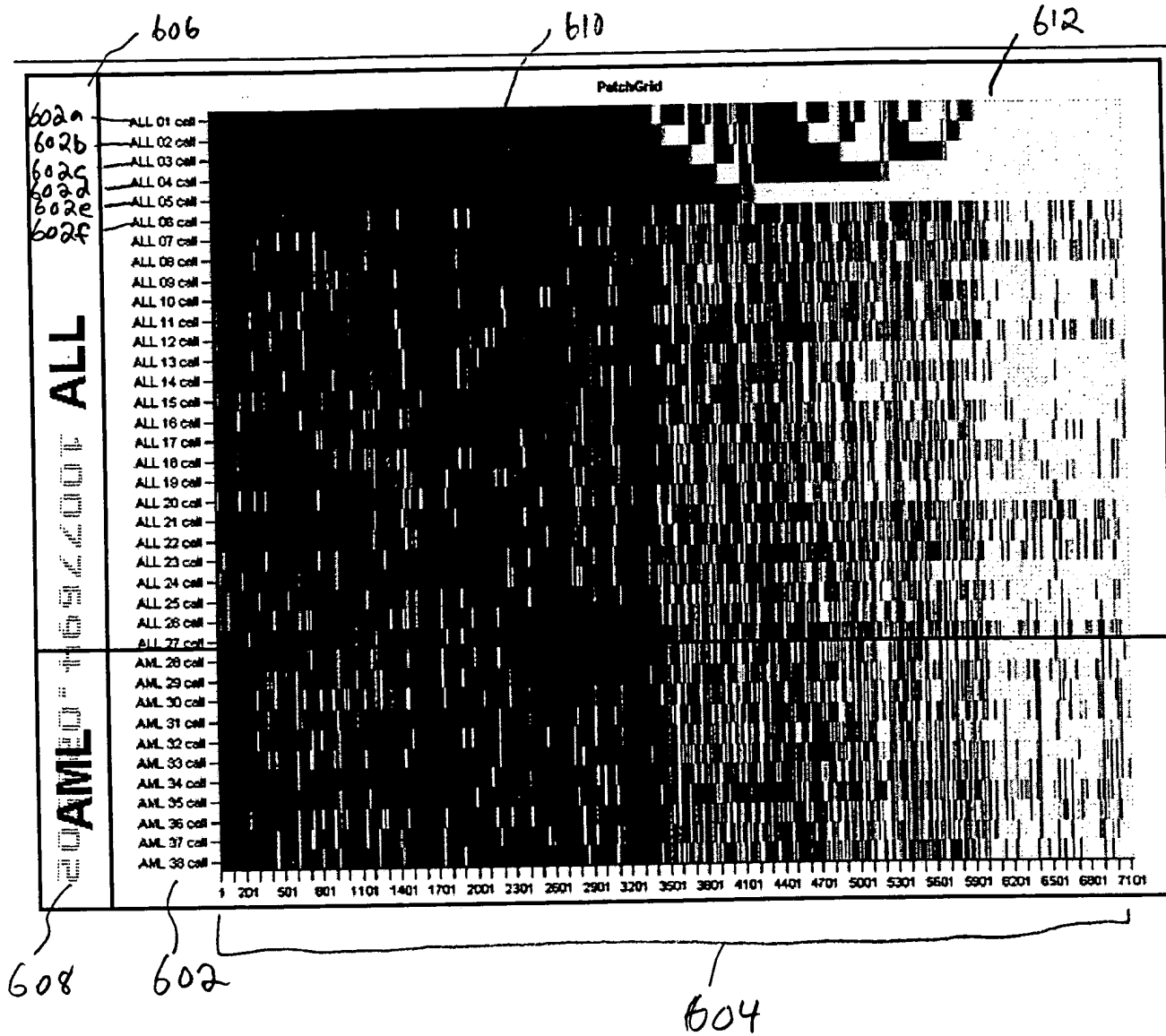


Figure 6D

2218917

6D

Sorted 33 Dimensions

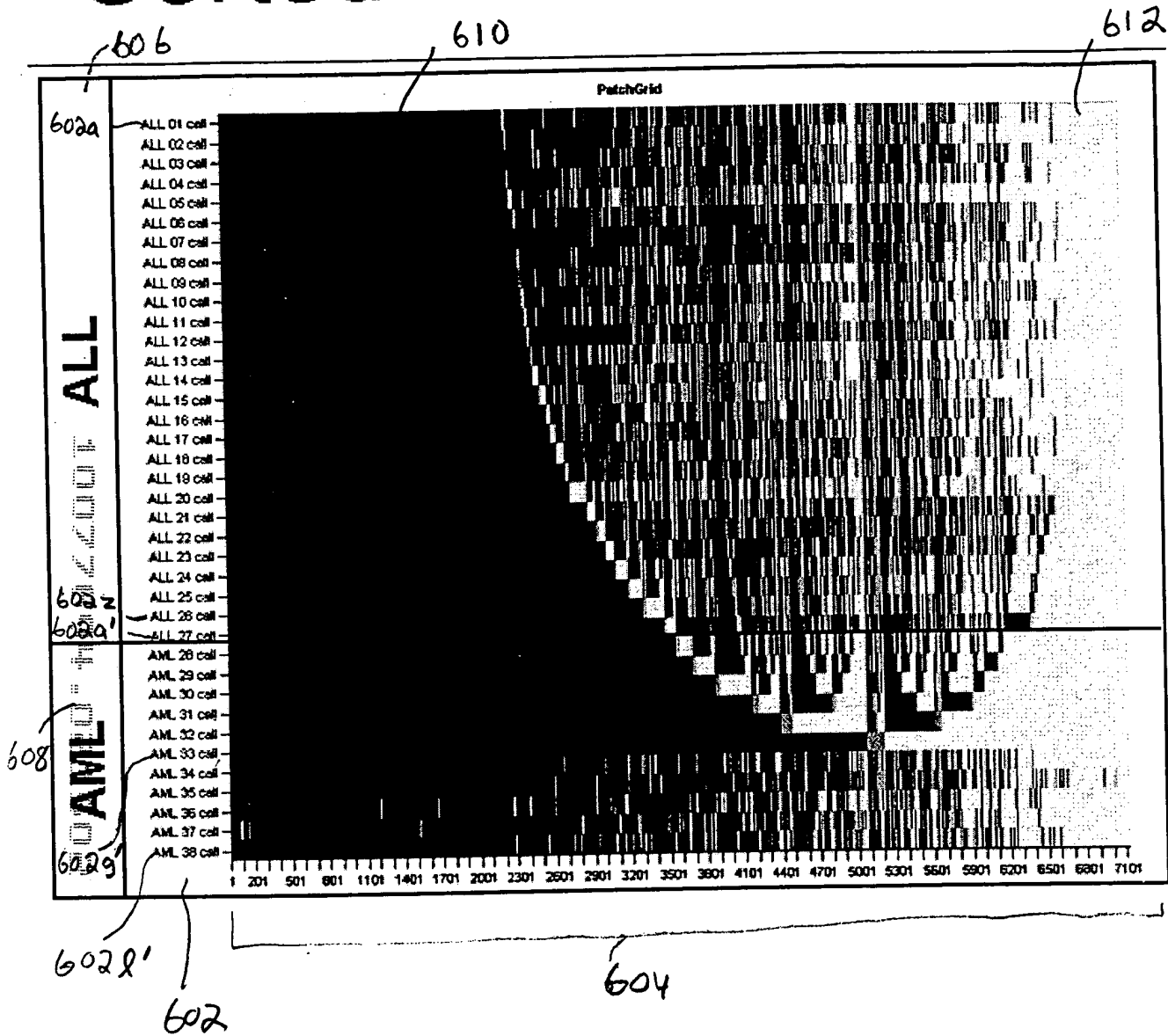
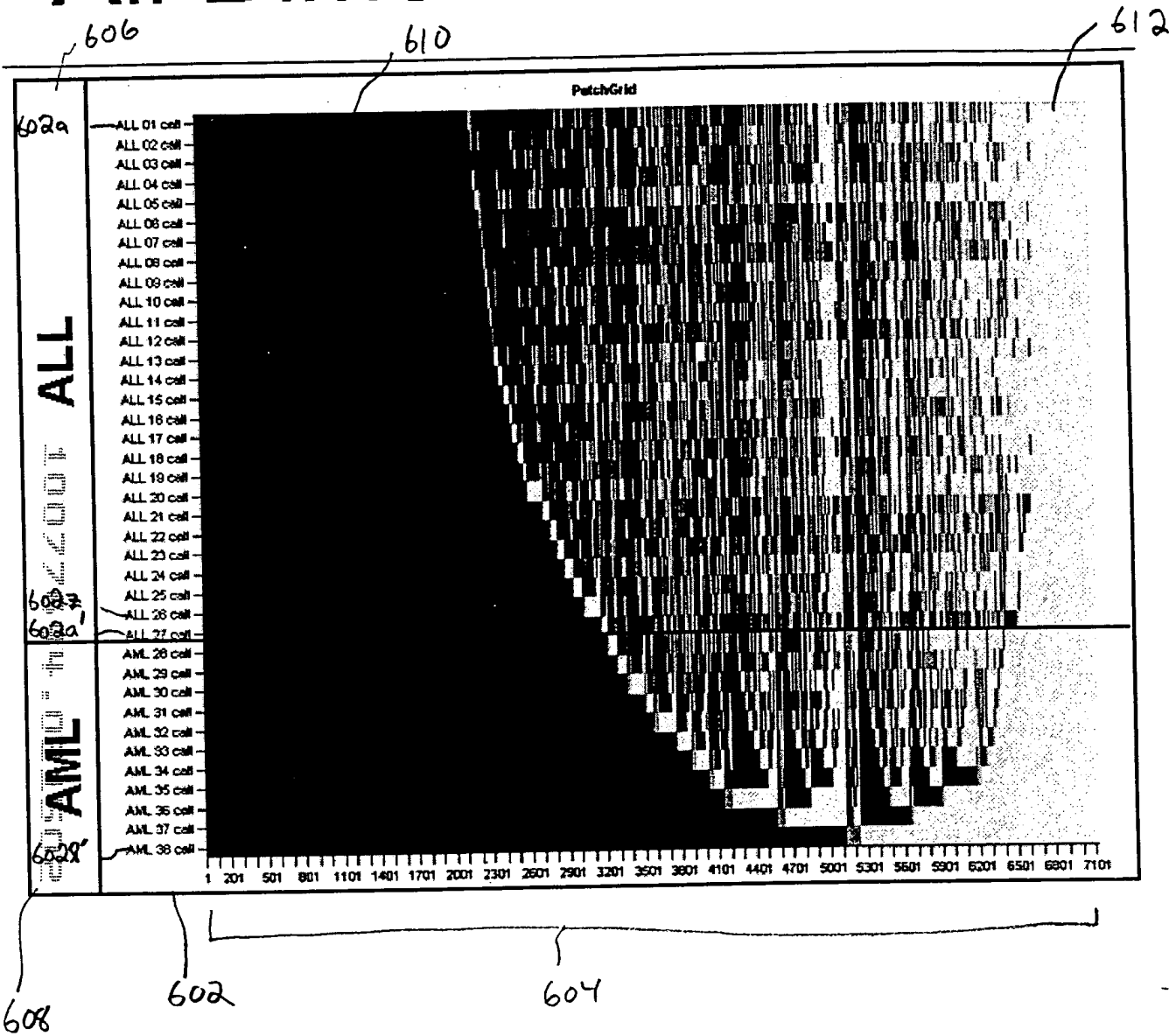


Figure 6E

2218917

All Dimensions Sorted



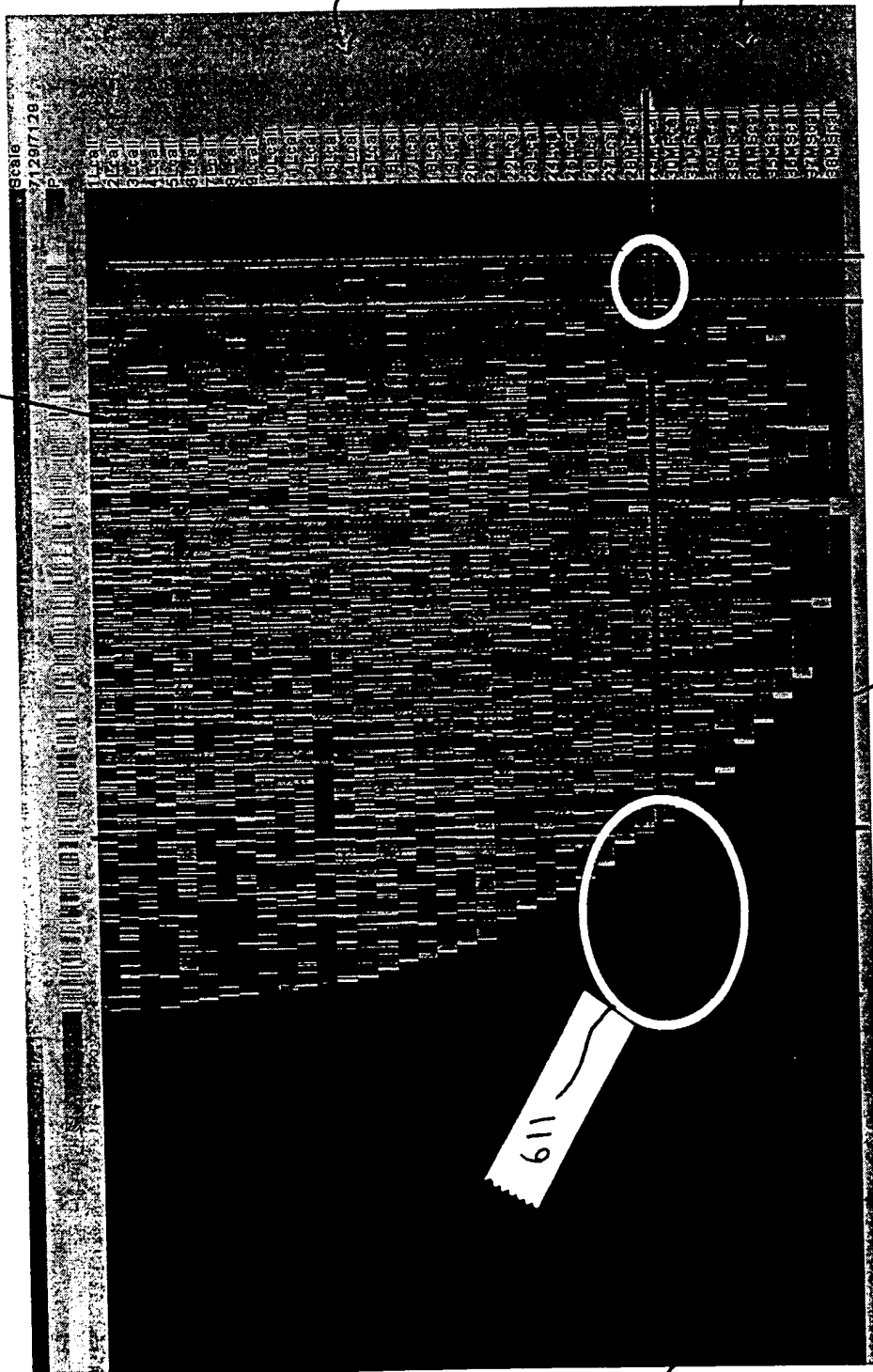
2218917

6F

205120" 4692000

600

634



618

606

608

630

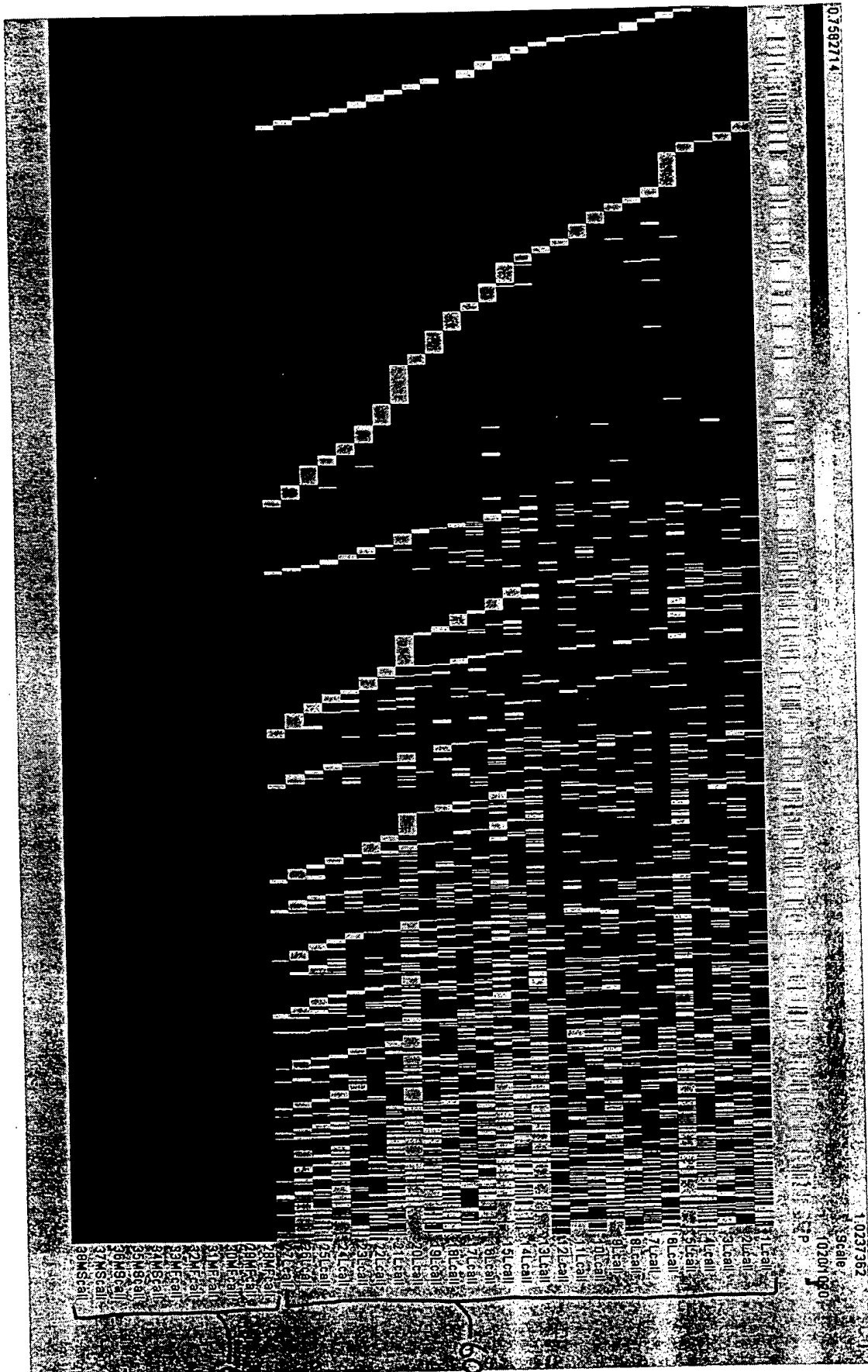
623

Figure 6G

624

620

10077694-021504
Figure 6



634

205120-16922001

1382502

Principal Uncorrelated Record Selection

RadViz

File Display Mapping Layout Selection Data

Training Data Set

Mark Related Records

PUR Selection ☒ 702

start threshold range [1, 1]

adjust increment 704

final record count 706

Selects records that do not correlate highly with the currently marked records. If no records are marked, all records correlating with any other records will be marked.

OK Cancel

ALL 1 ALL 16 ALL 18 ALL 20 ALL 21 ALL 22 ALL 23 ALL 24 ALL 25 ALL 26 ALL 27 ALL 28 ALL 29 ALL 30 ALL 31 ALL 32 ALL 33 ALL 34 ALL 35

700

710

Figure 7

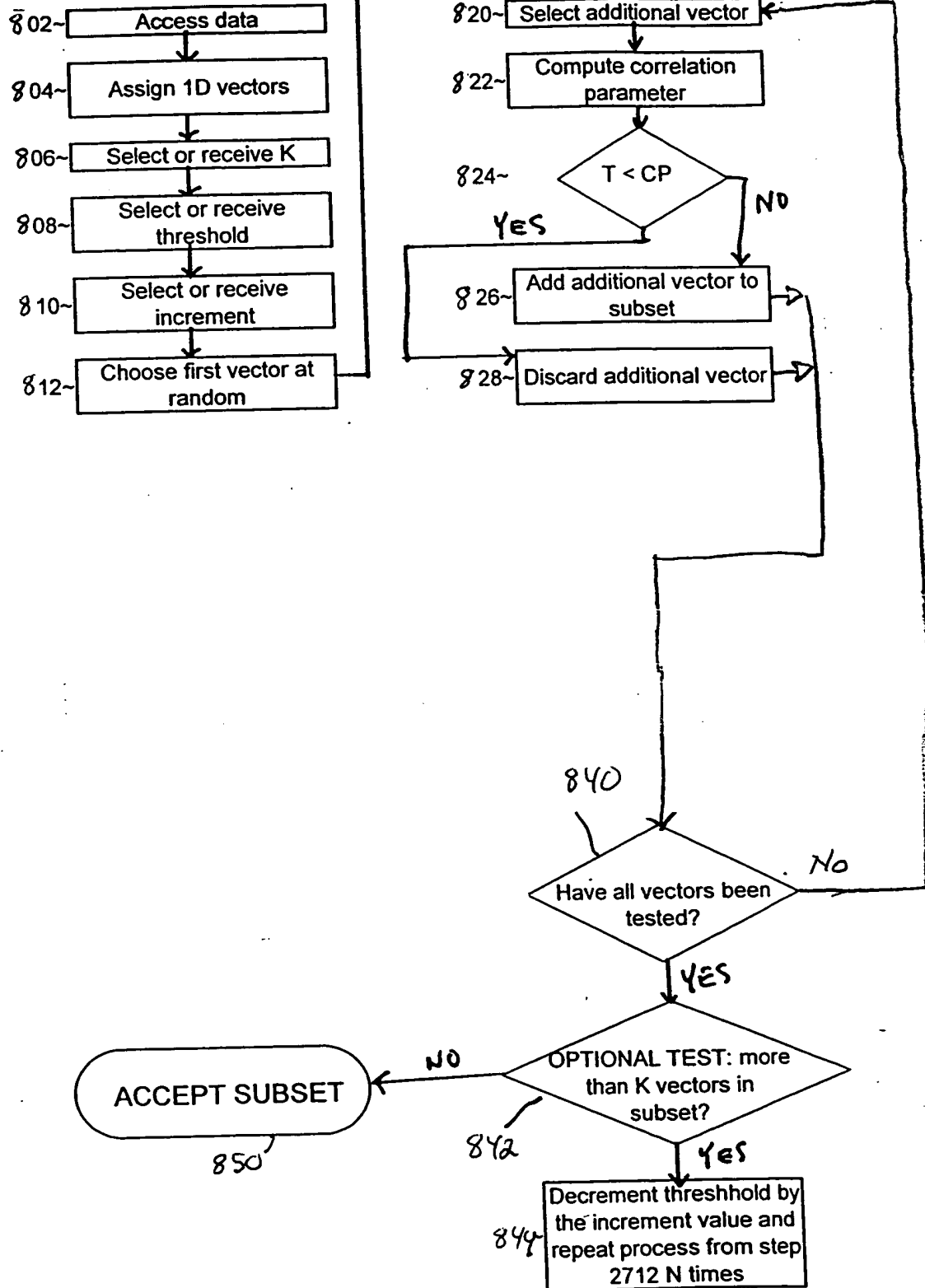


Figure 8

4286522

76 Principal Uncorrelated Genes

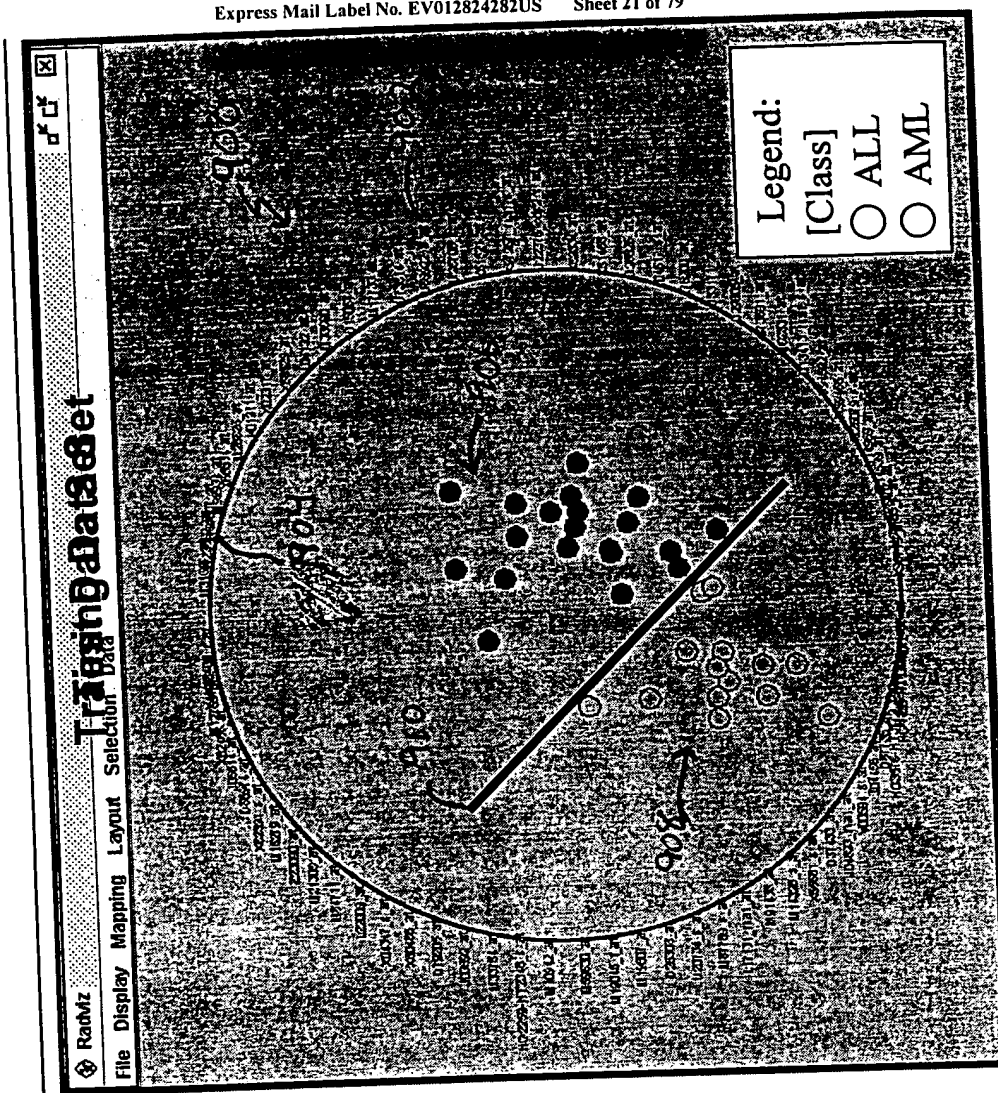


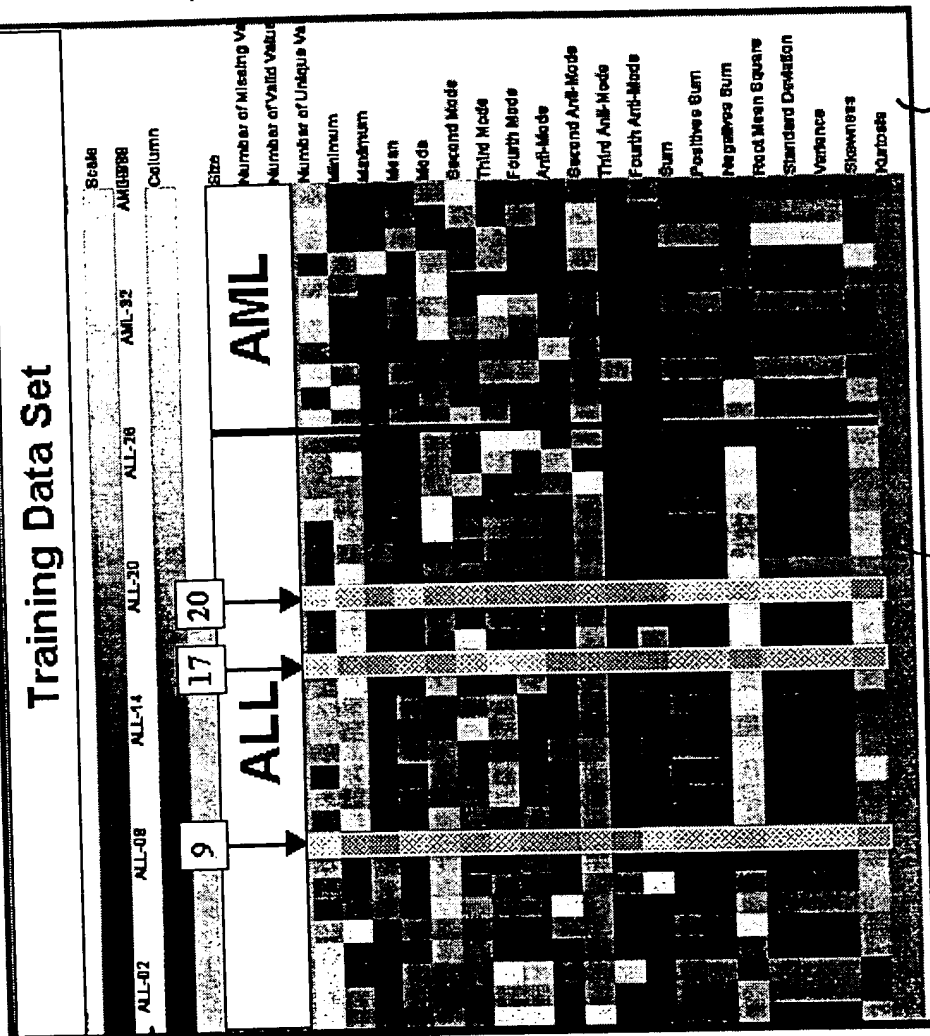
Figure 9

Statistical Metadata

(Affymetrix Absolute Data)

1000

Training Data Set



602

1008



LOW HIGH

1004

1002

Figure 10A

205120-16922001

Pearson Correlation Coefficients (Affymetrix Absolute Data)

1001
2

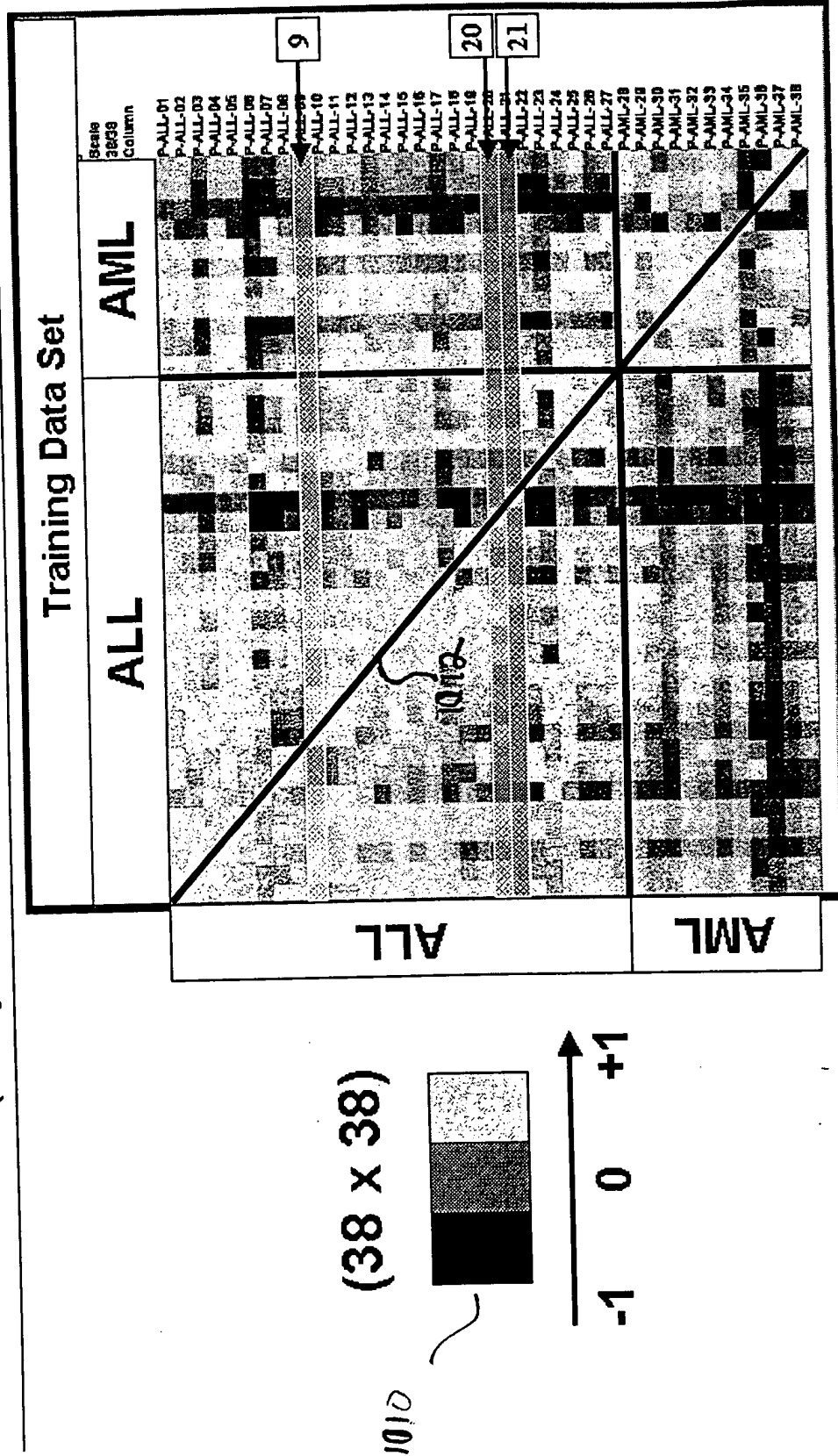


Figure 10B

2218917

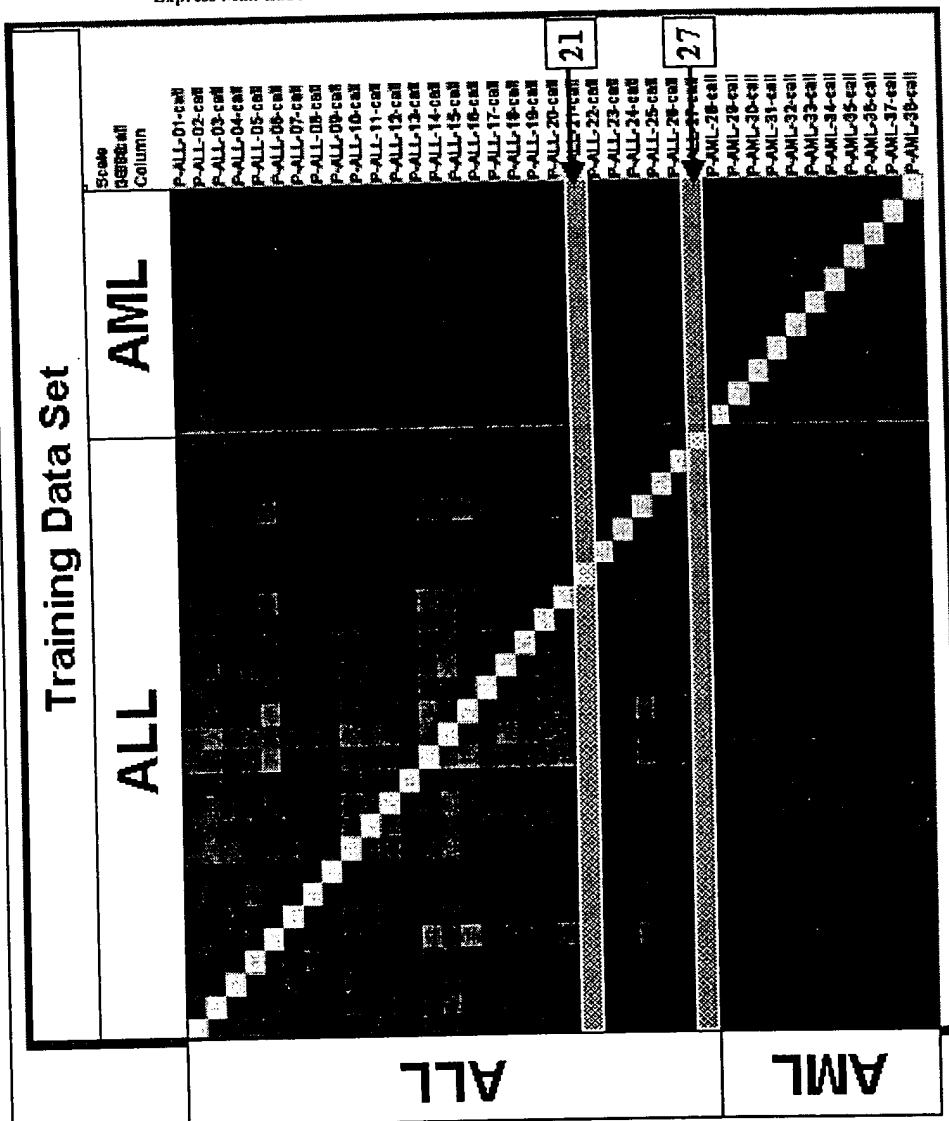
205F207459Z00F

Pearson Correlation Coefficients (Affymetrix Comparative Data)

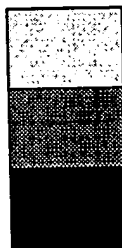
1003

2

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(38 x 38)



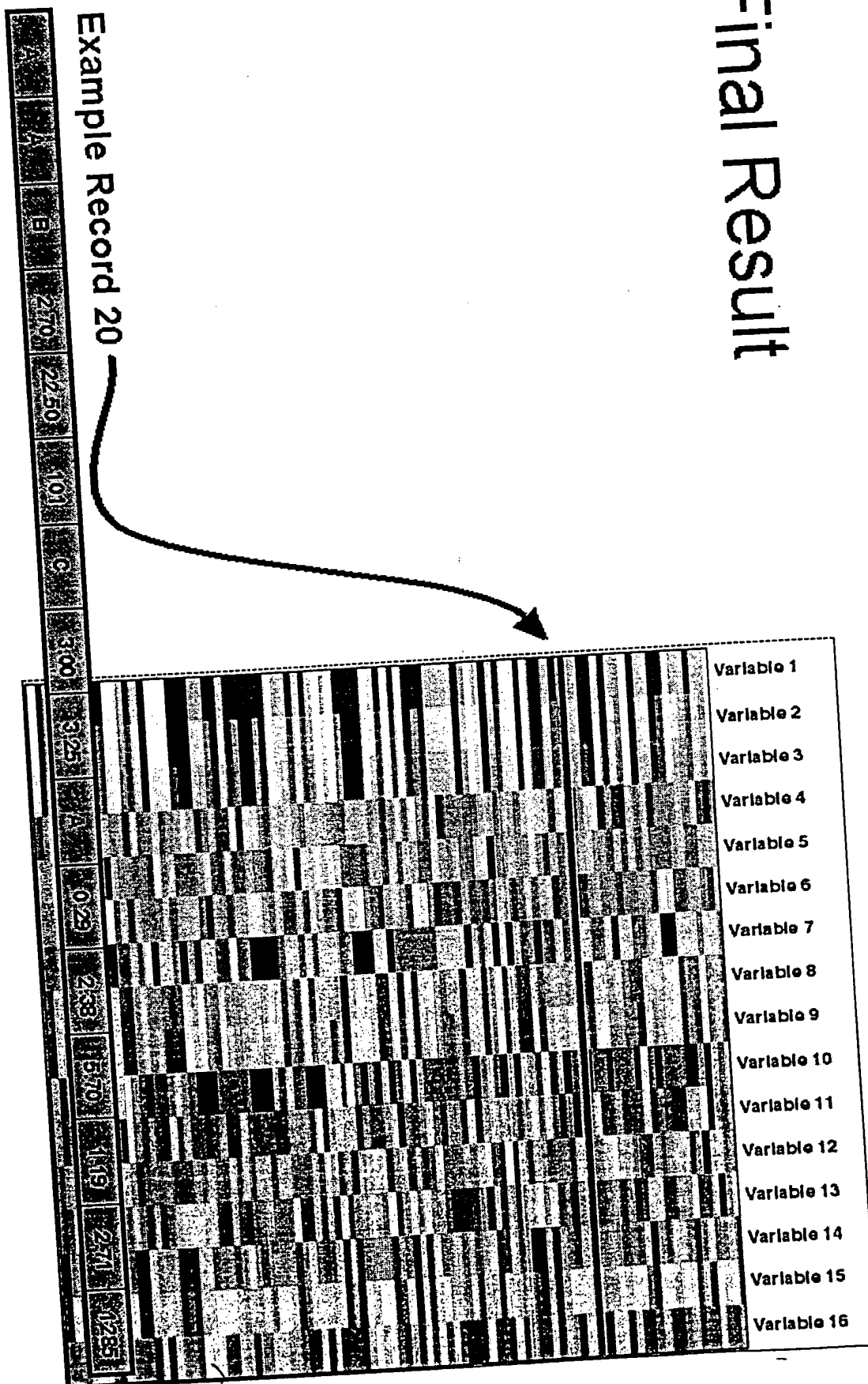
-1 0 +1

Figure 10C

2218917

Final Result

Example Record 20



1.00

306

Figure 11A

10077694.021502

2218917

205T20-4692200T

Sort - Variable 1

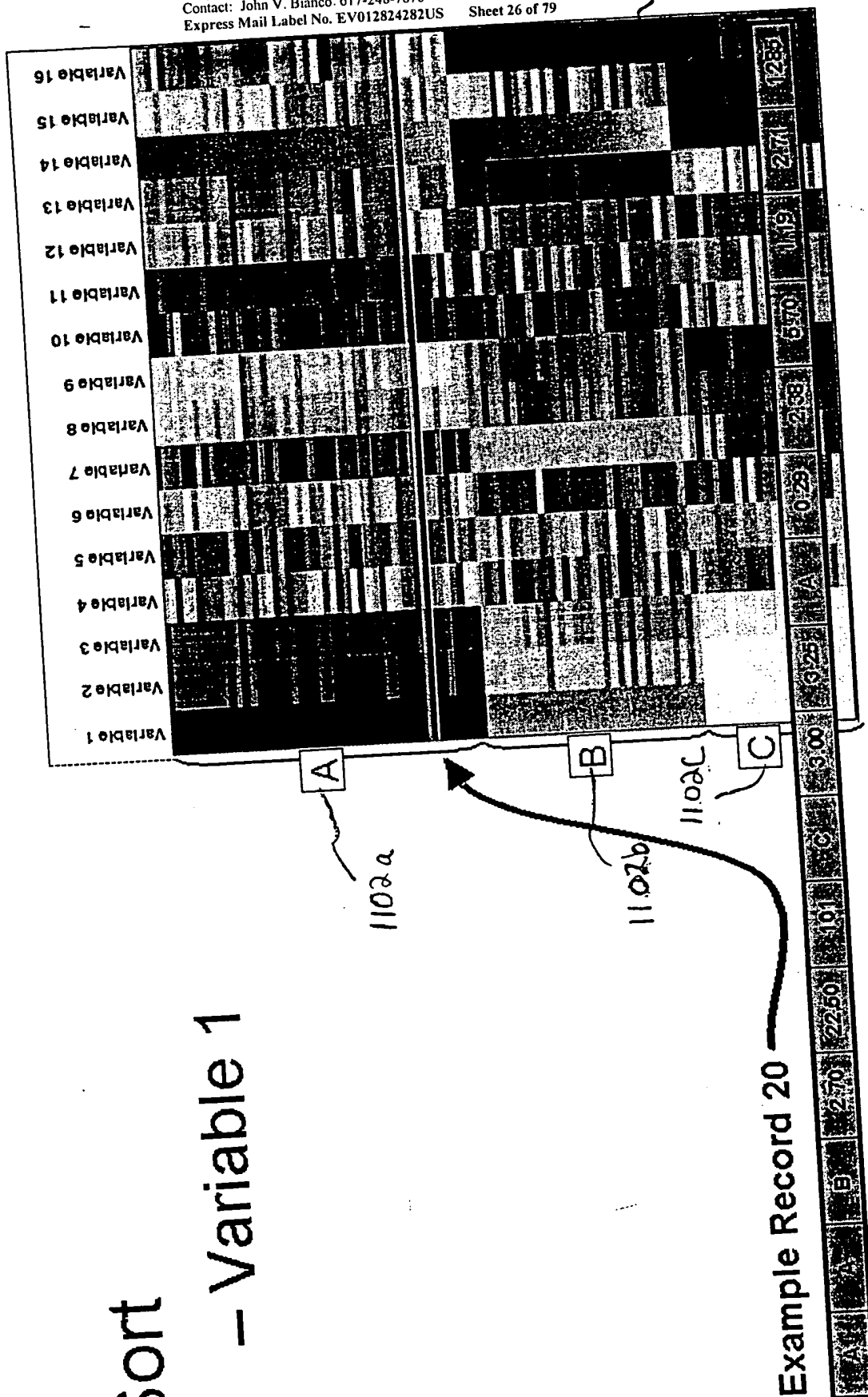
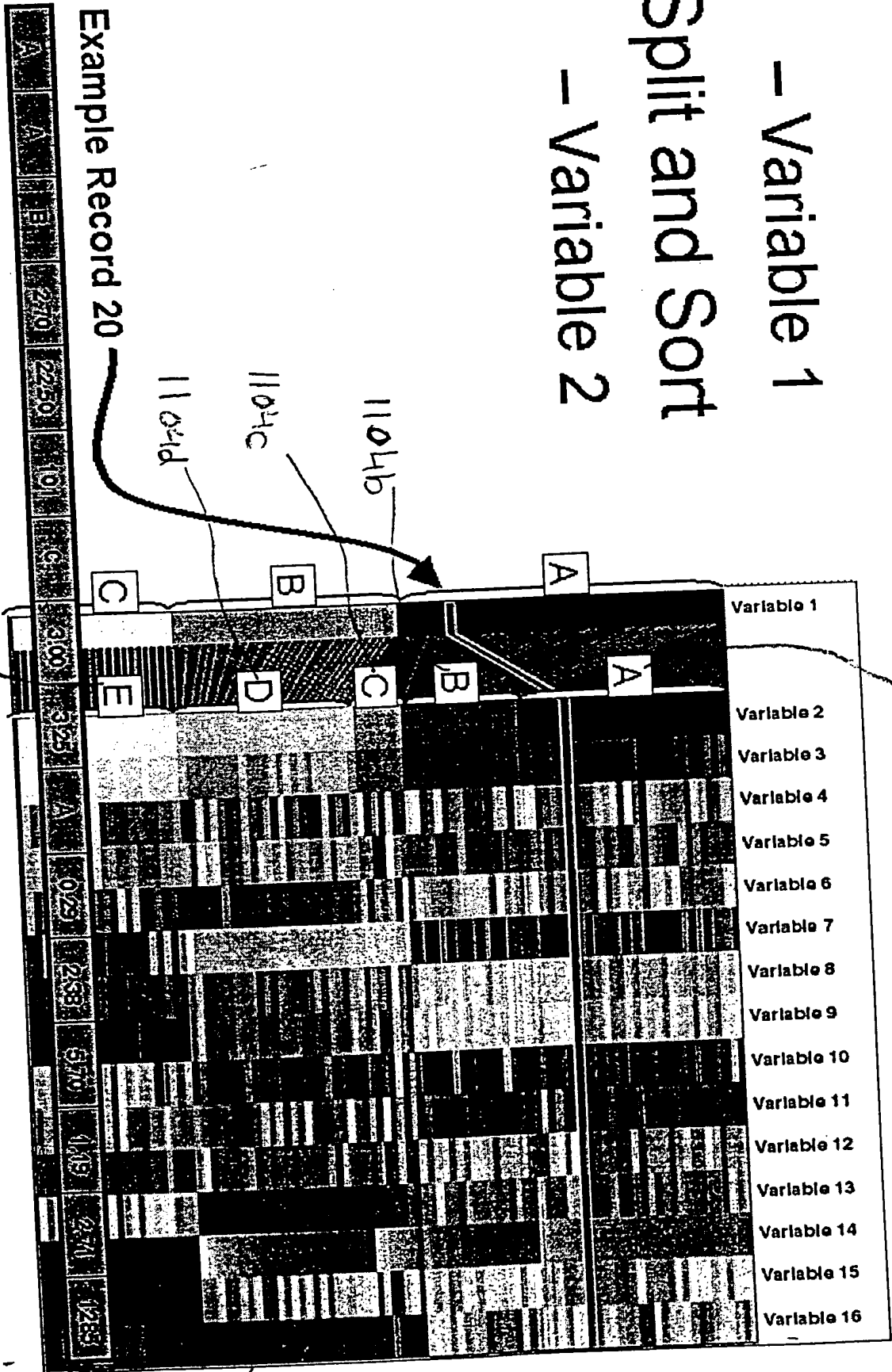


Figure 11B

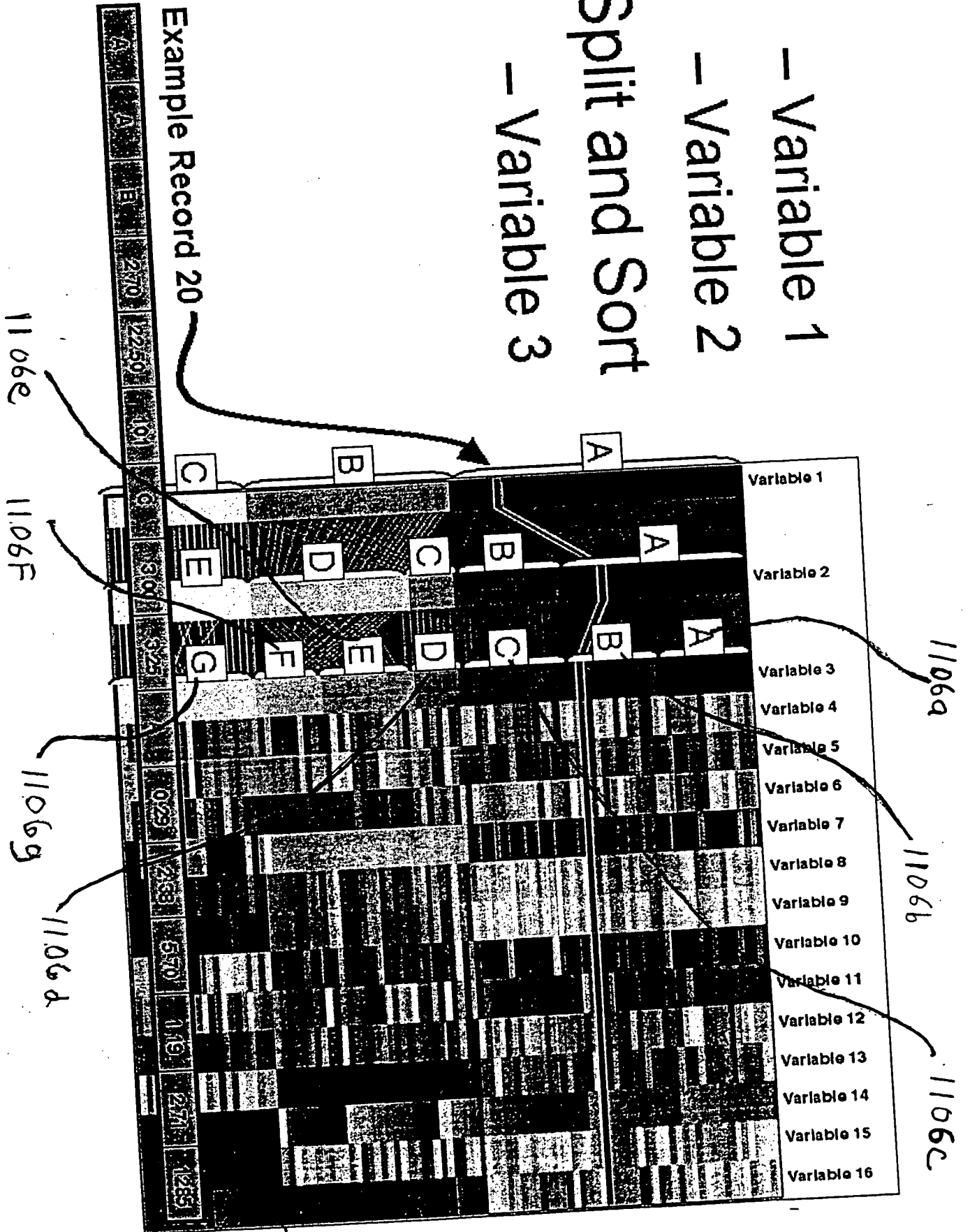
2218917

– Variable 1 Split and Sort – Variable 2



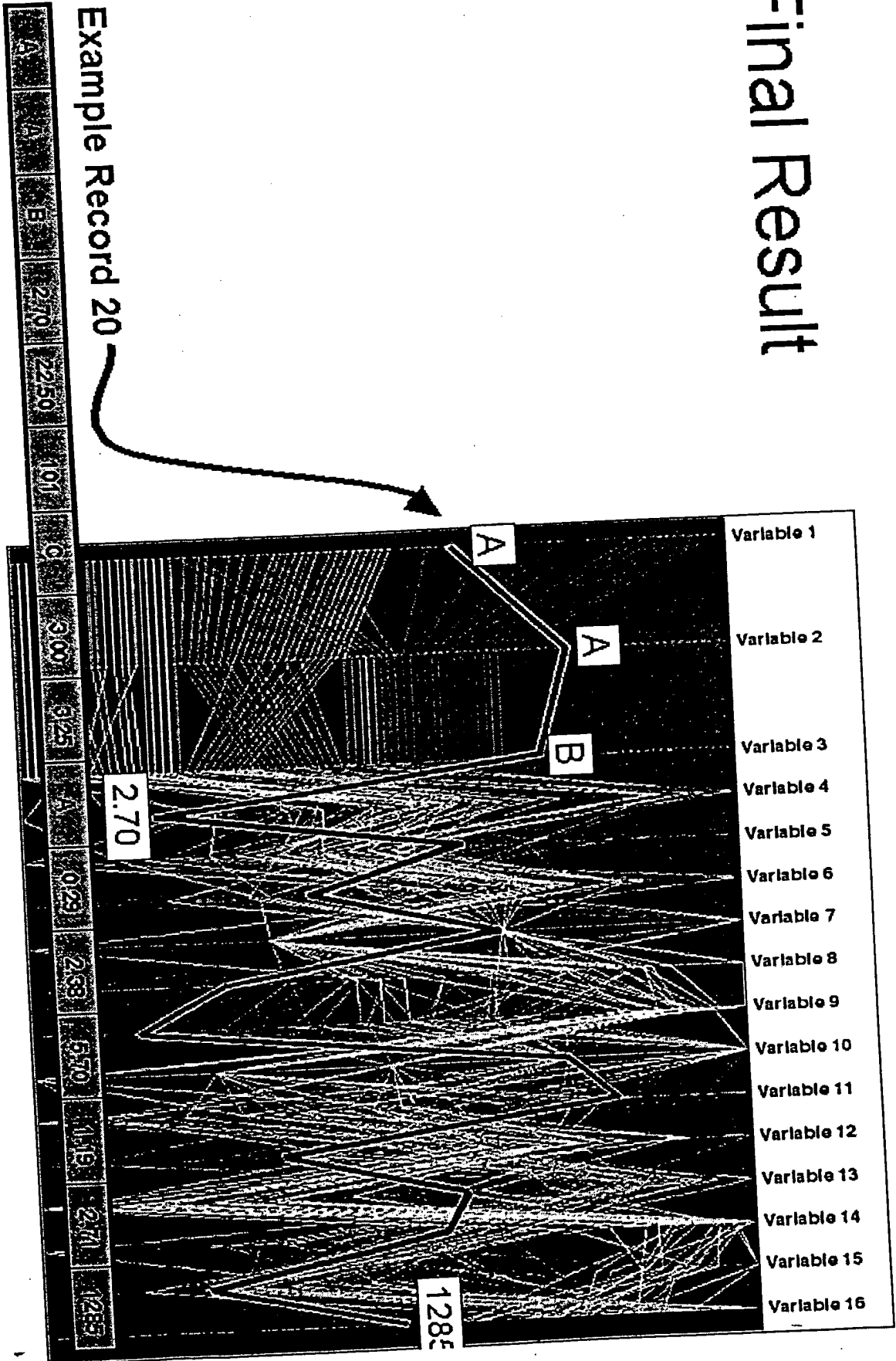
Split and Sort

— Variable 1
 — Variable 2
 — Variable 3



Final Result

Example Record 20



1007 Figure 11E

2218917

205T20-1694200T

1200
↙

Example record showing the underlying connections

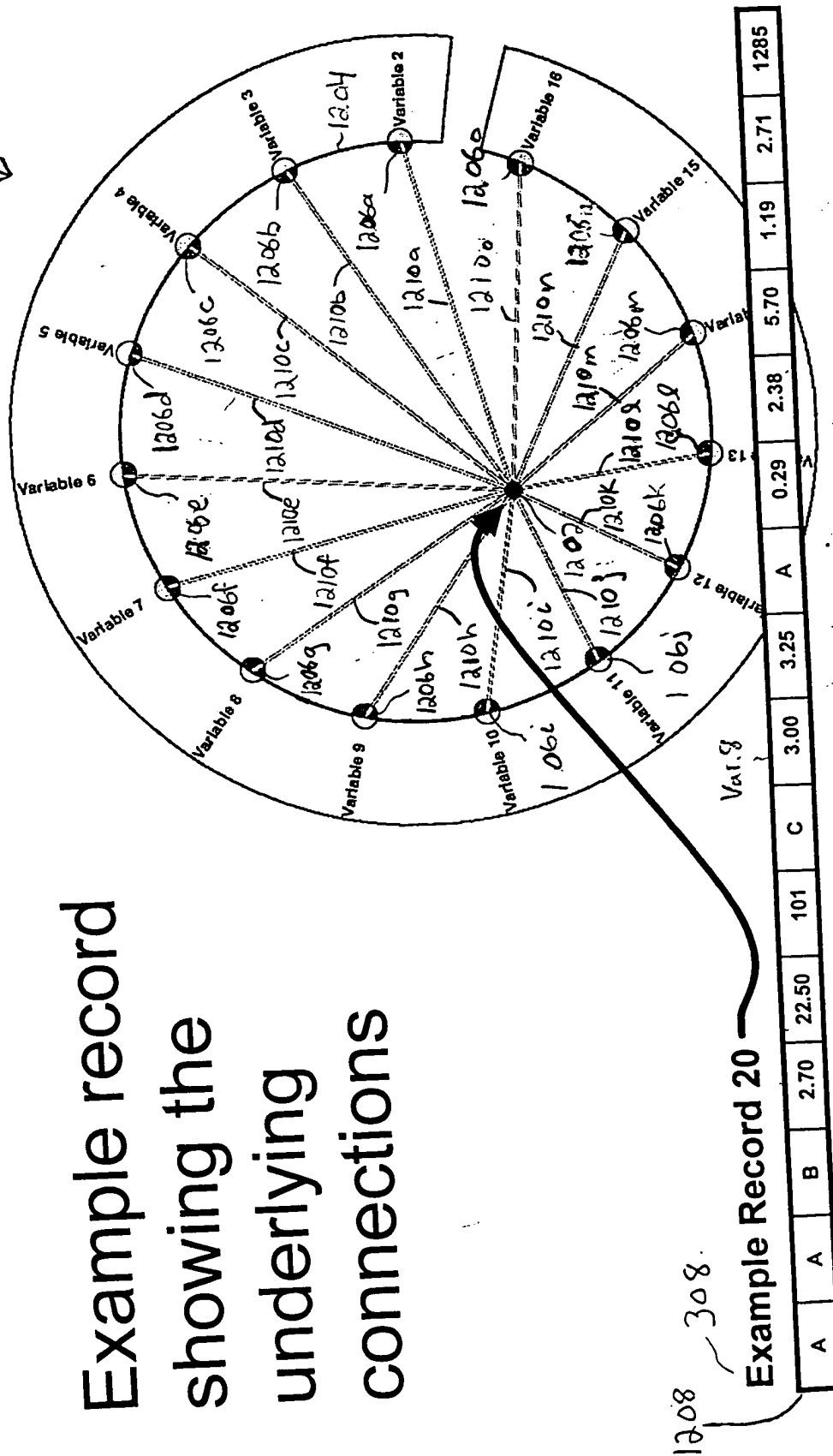
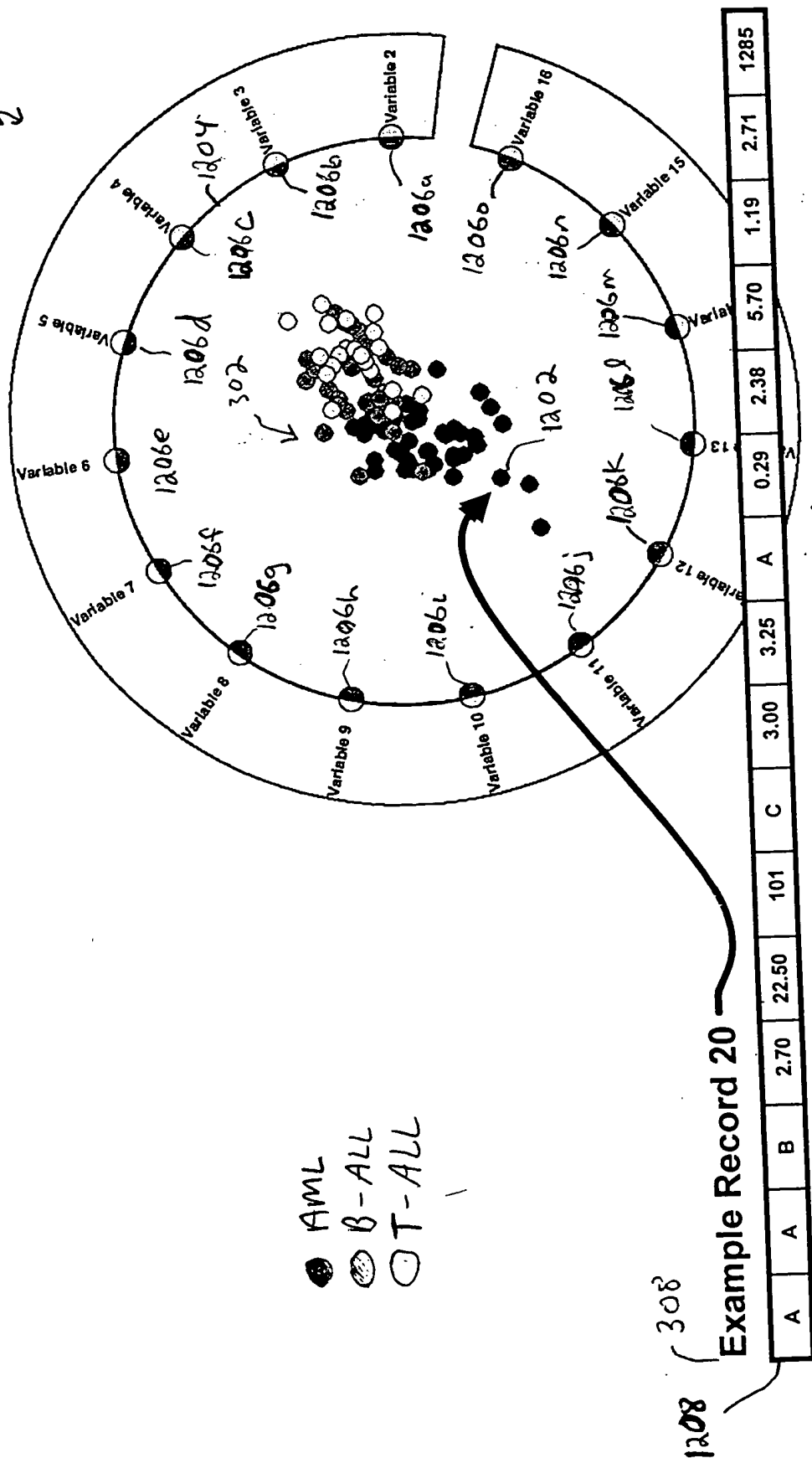


Figure 12A

205T20-16942001

1200
2

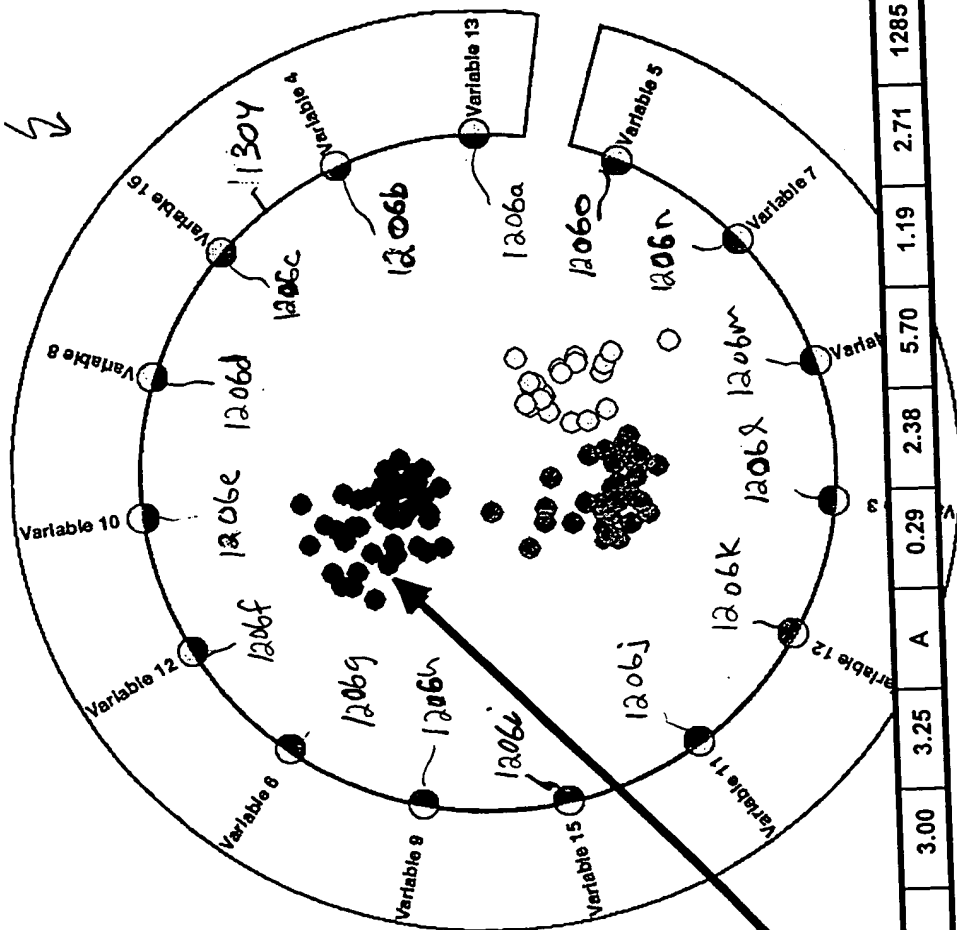


2259888

Visual Classifier

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1200



Three Classes

- AML
- B-ALL
- T-ALL

308

Example Record 20

A	A	B	2.70	22.50	101	C	3.00	3.25	A	0.29	2.38	5.70	1.19	2.71	1285
---	---	---	------	-------	-----	---	------	------	---	------	------	------	------	------	------

1208

Figure 12C

2259888

205120-1092001

1300

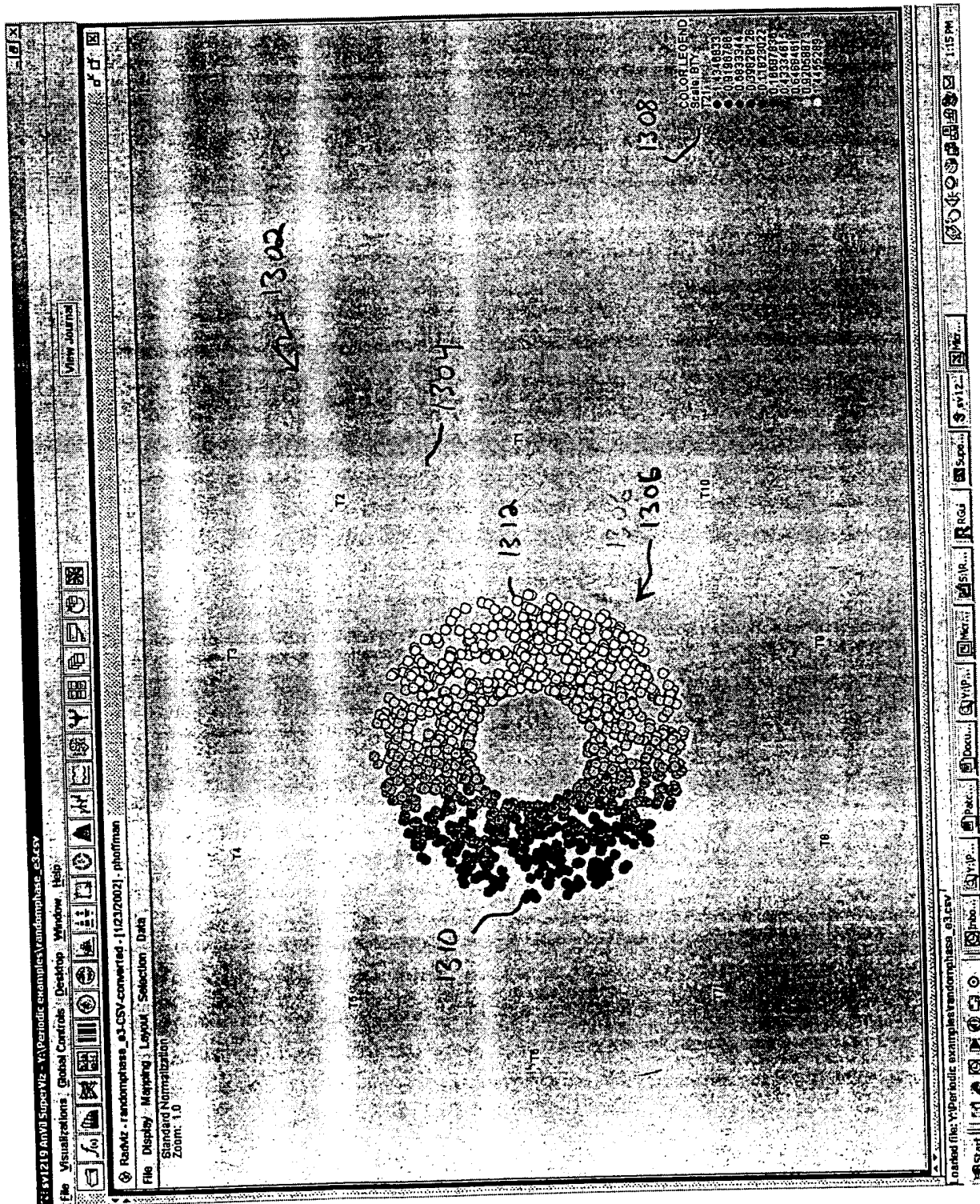


Figure 13A

226937

205120-1092001

1301

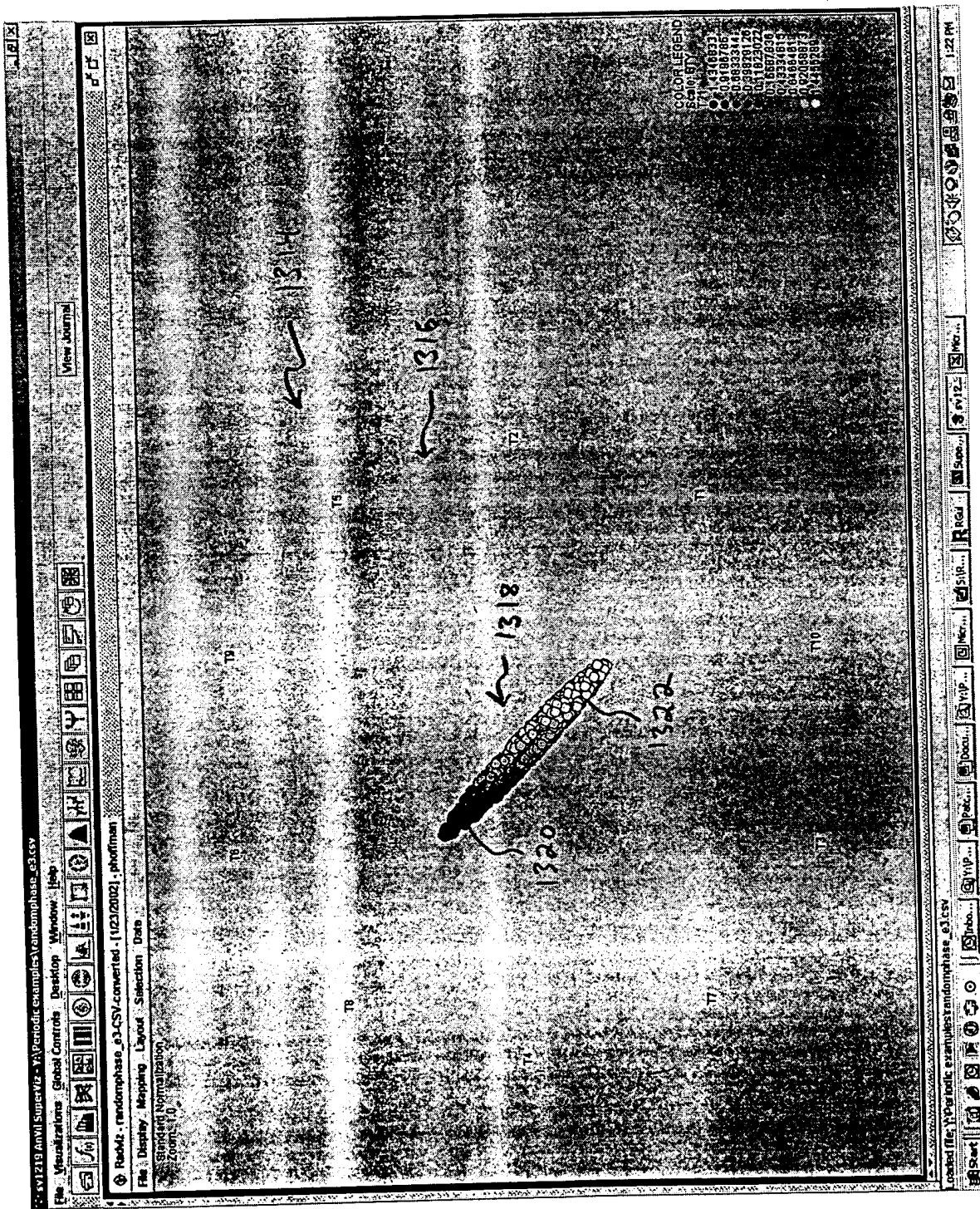


Figure 13B

2269307

1303



226937



203120-4692001

1307

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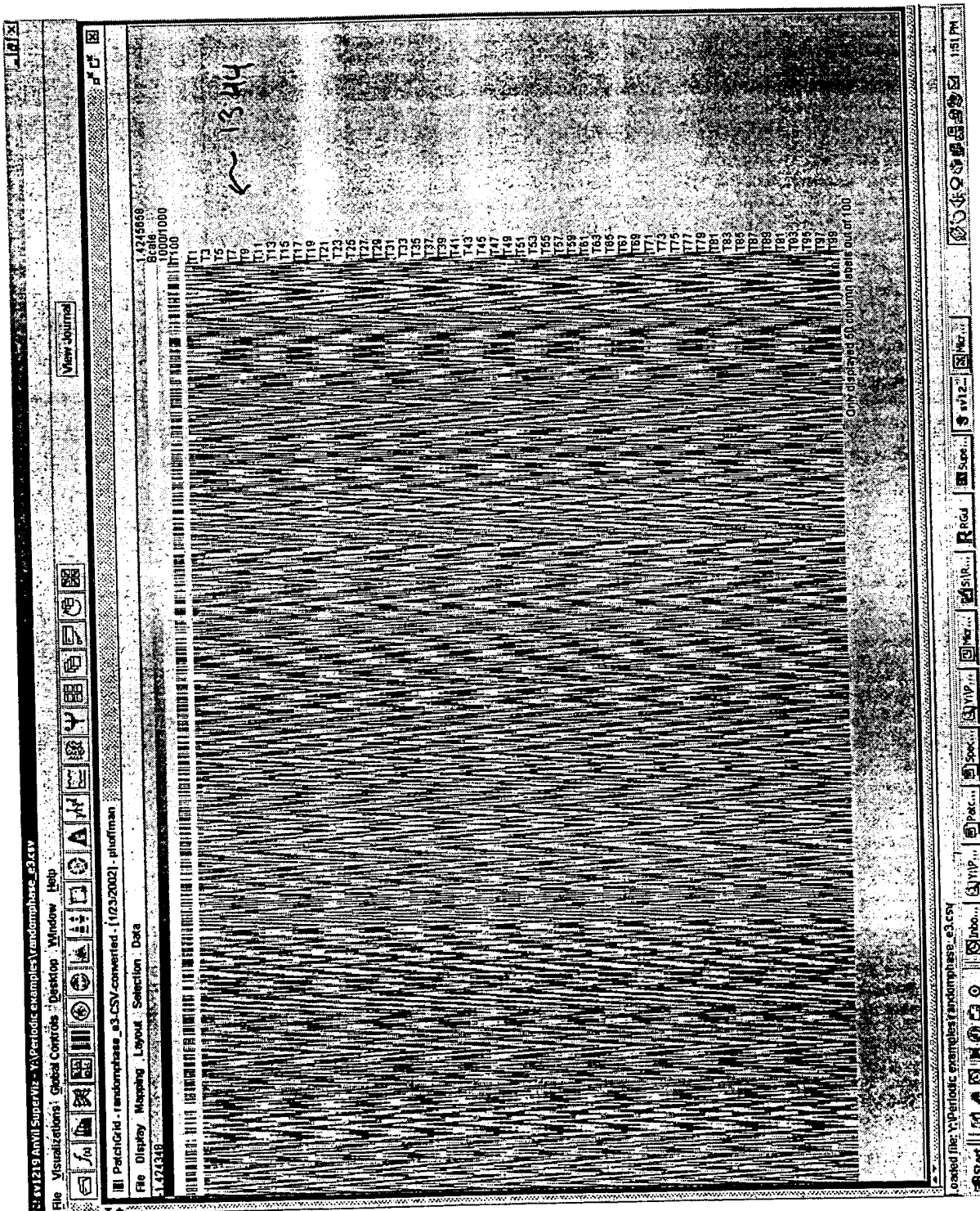


Figure 13E

226937

205120" 4694.0001

226937

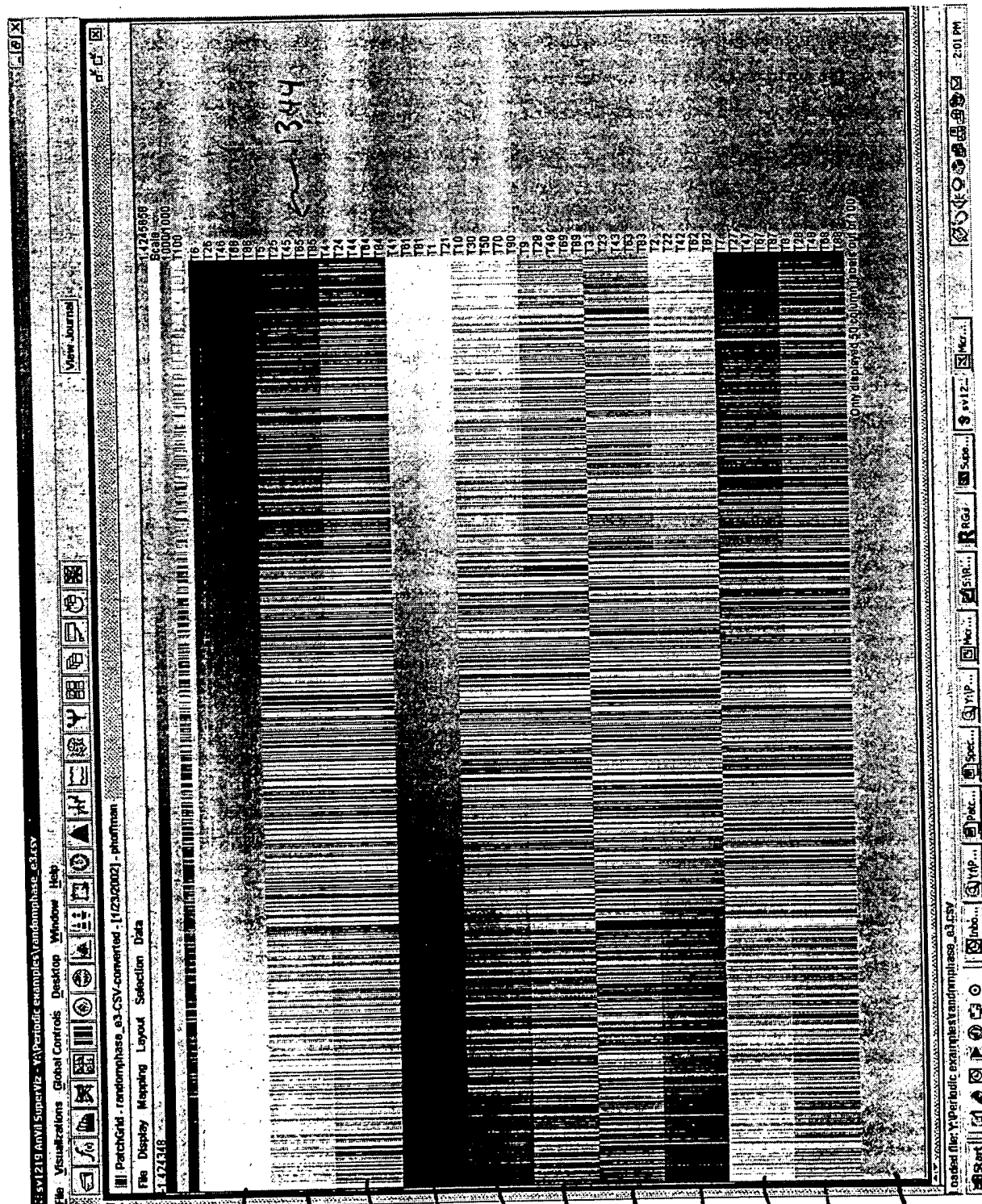


Figure 13f

205 F20" 469400 F

1311

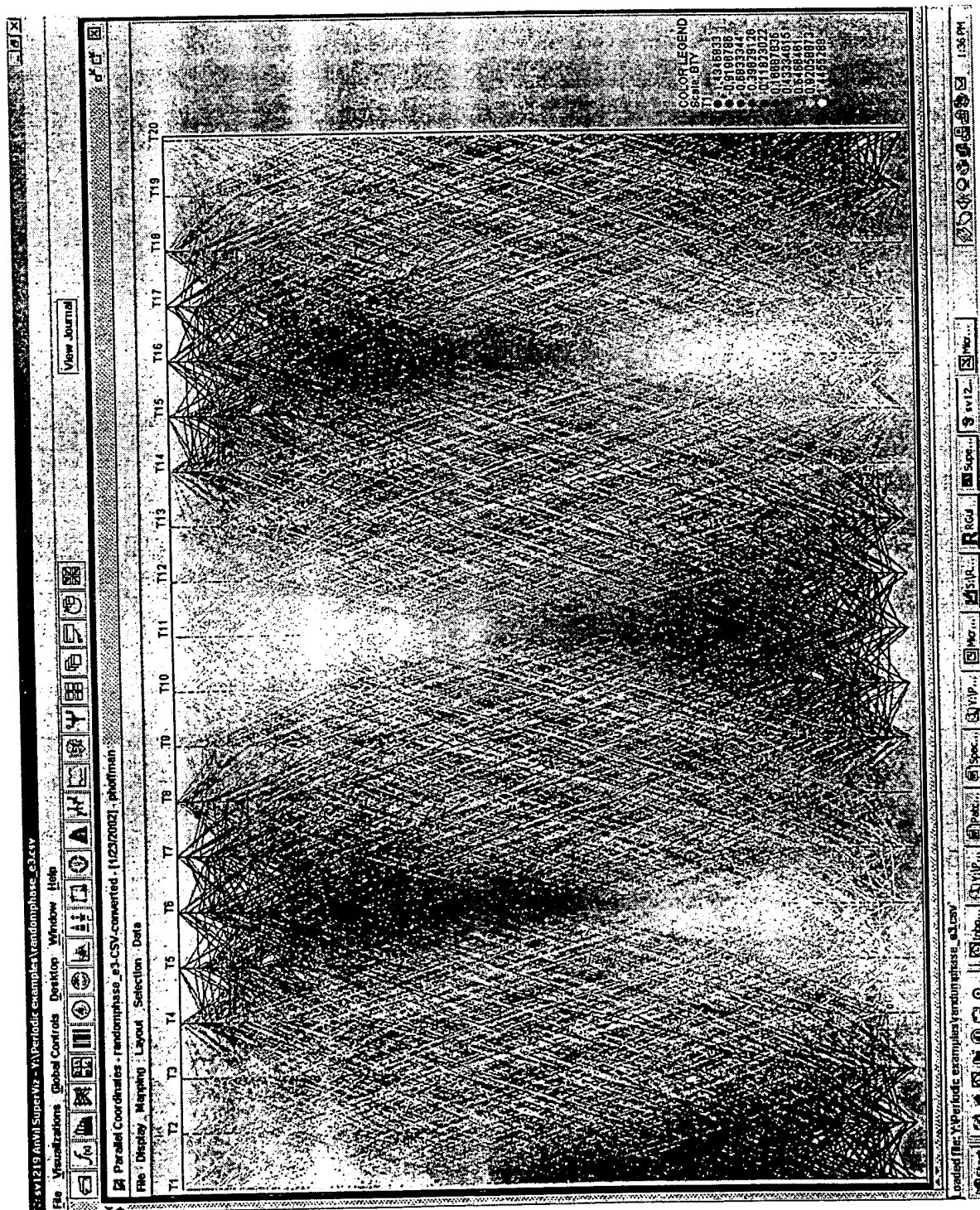


Figure 13G

226937

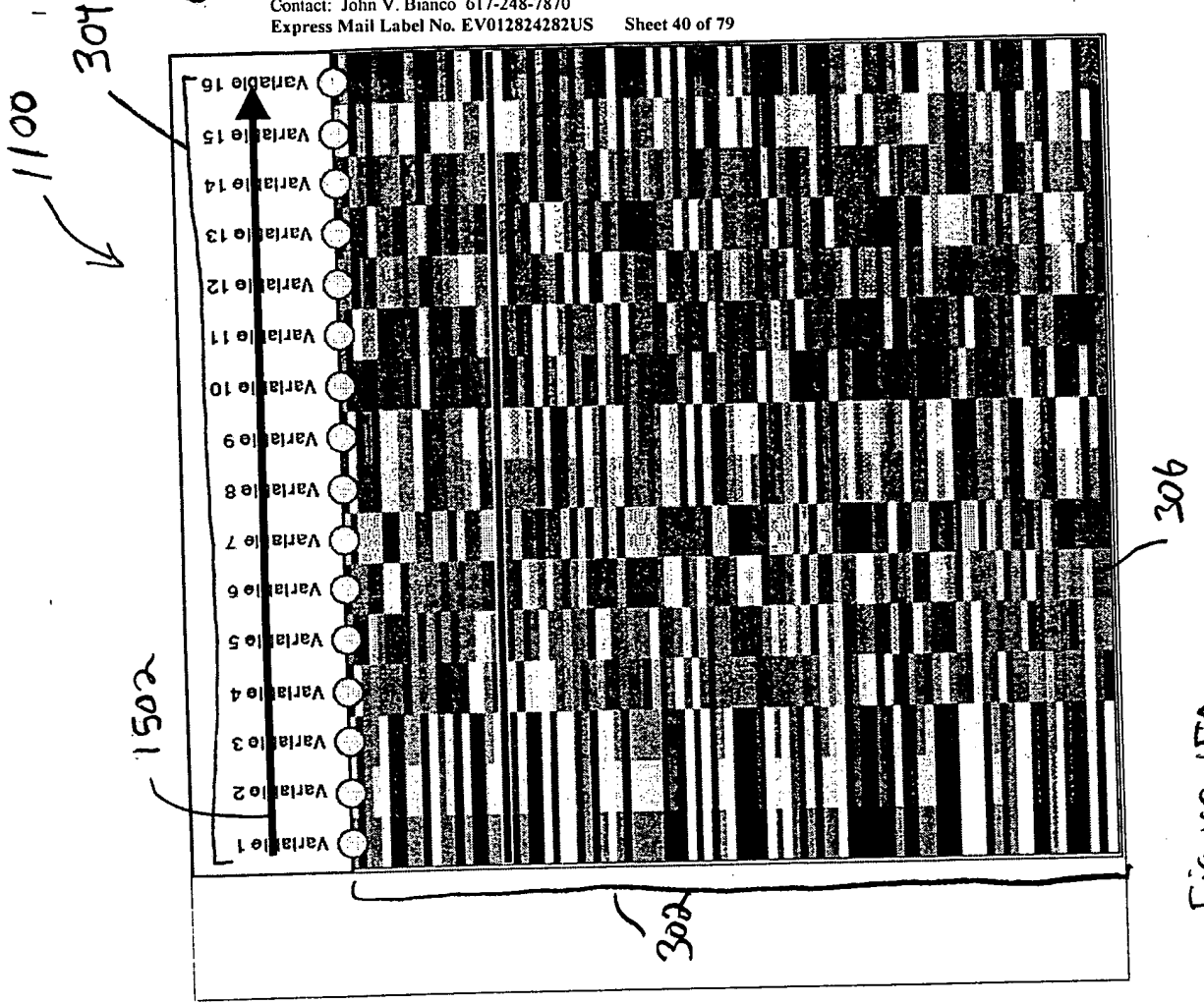


Figure 15A

Transforming a
 rectangular to a
 radial layout

2005-04-20 16:52:00

07C9998

205120-16922001

Radial Layout

Transforming a
rectangular to a
radial layout

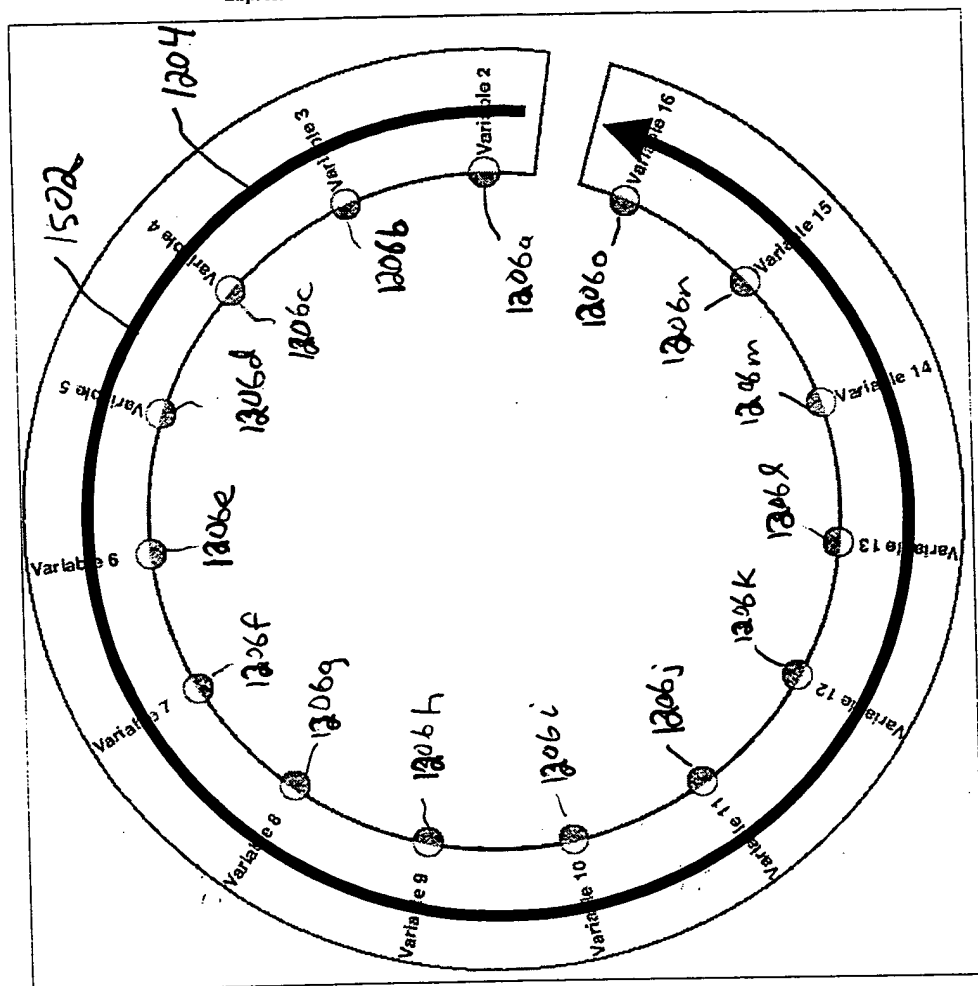


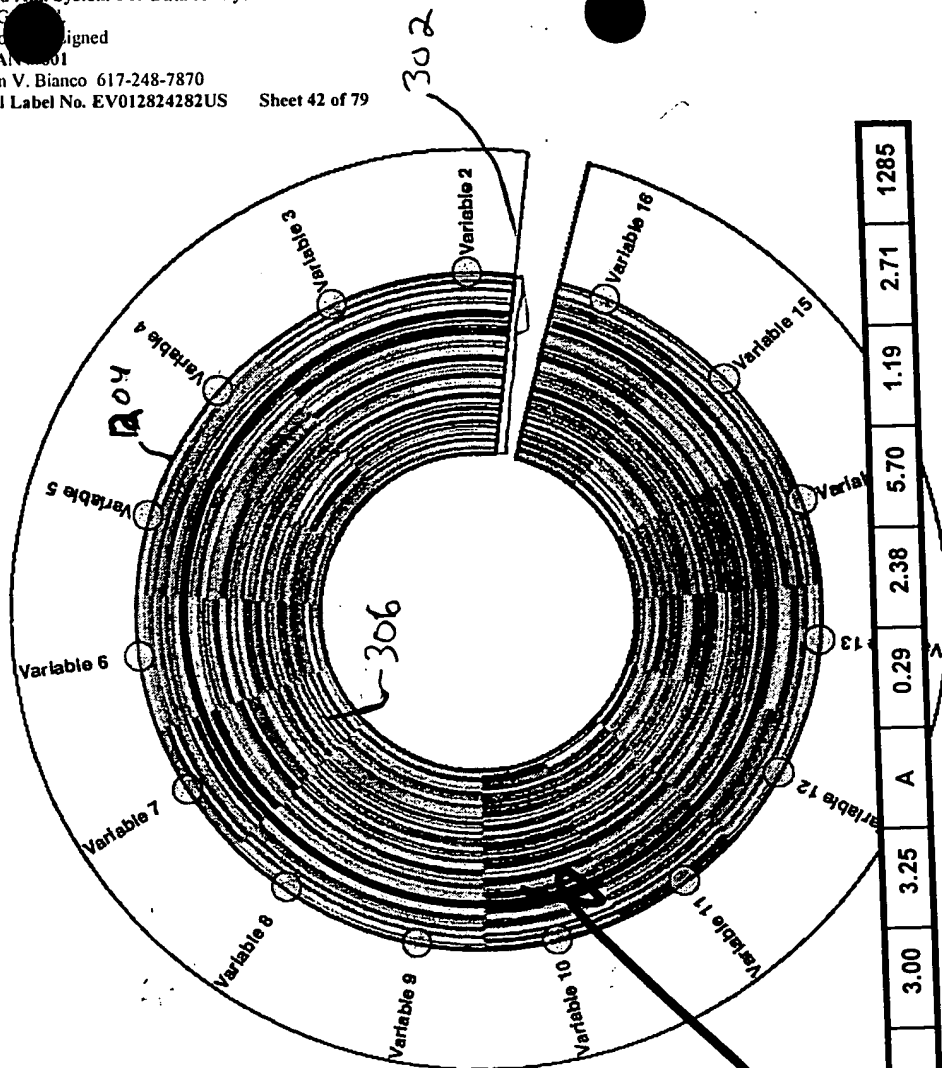
Figure 150

2229000

205420-169400F

Radial Layout

Transforming a
rectangular to a
radial layout



308

Example Record 20

A	A	B	2.70'	22.50	101	C	3.00	3.25	A	0.29	2.38	5.70	1.19	2.71	1285
---	---	---	-------	-------	-----	---	------	------	---	------	------	------	------	------	------

1208

Figure 15c

2220000

Shape Control – Before Moving Anchors

1506
Exons
Introns



1504

1500

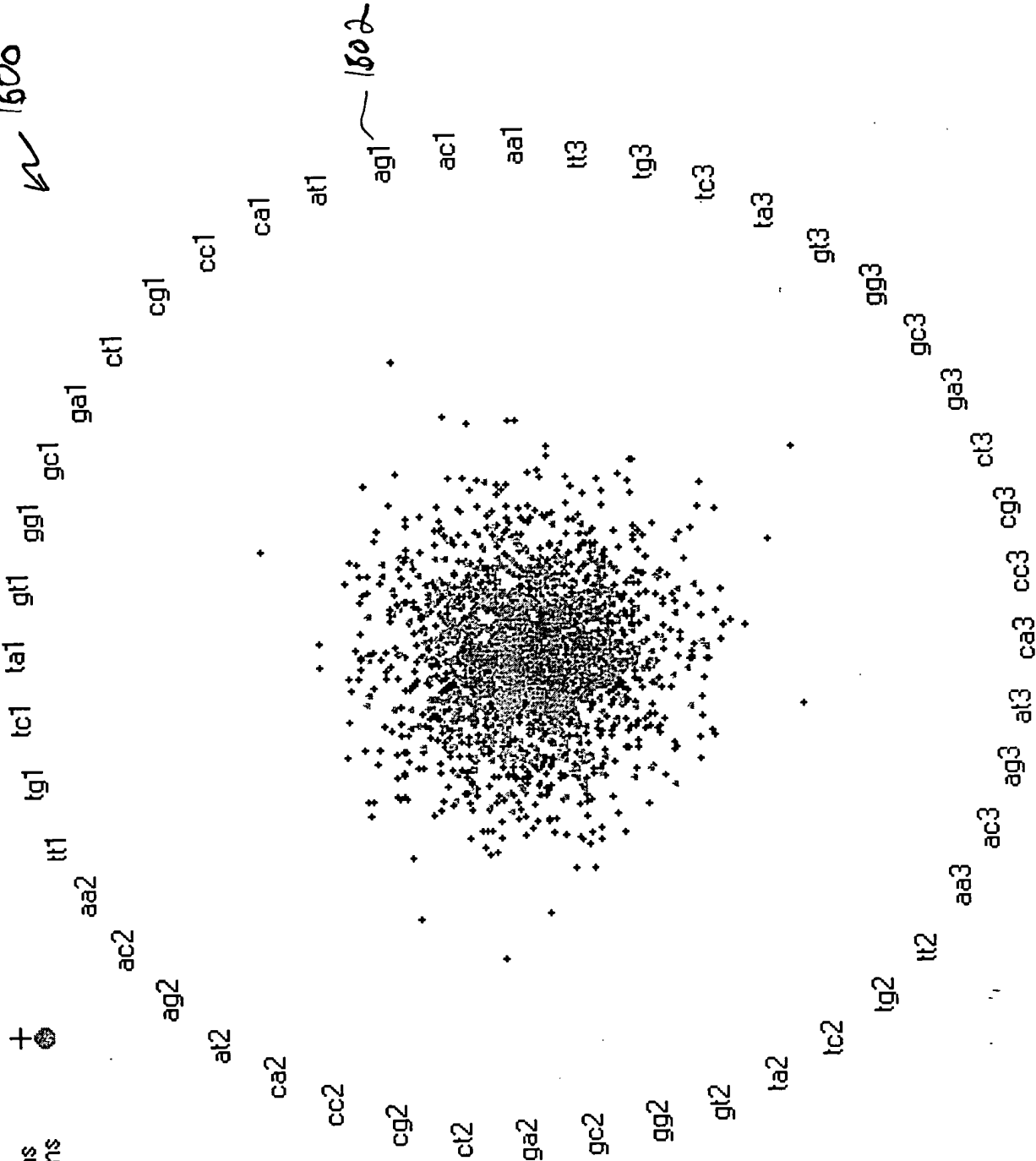


Figure 16A

Shape Control - Arbitrary Spline

1606
1604
+ Exons
- Introns

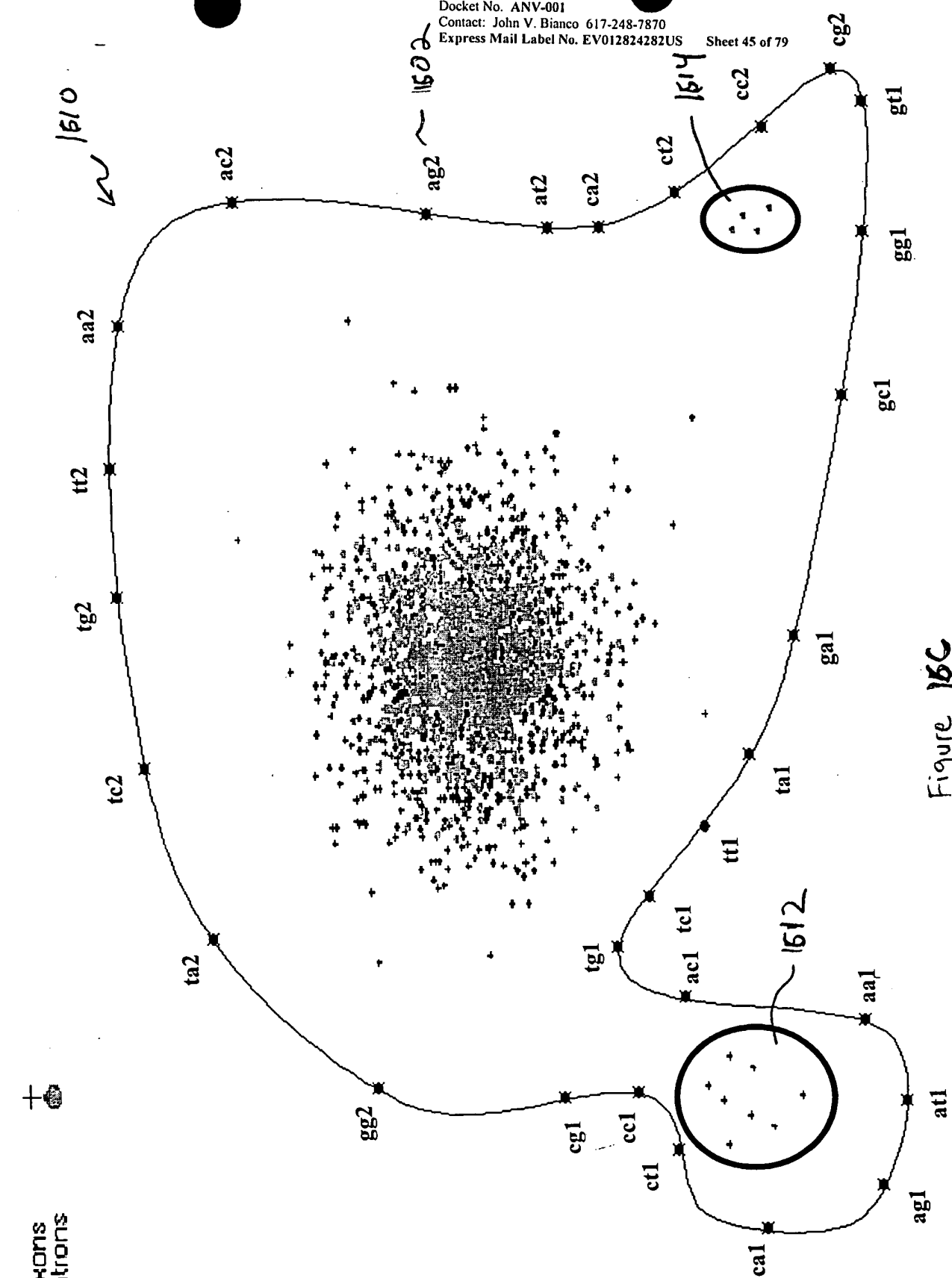


Figure 16C

205120-1692001

1620

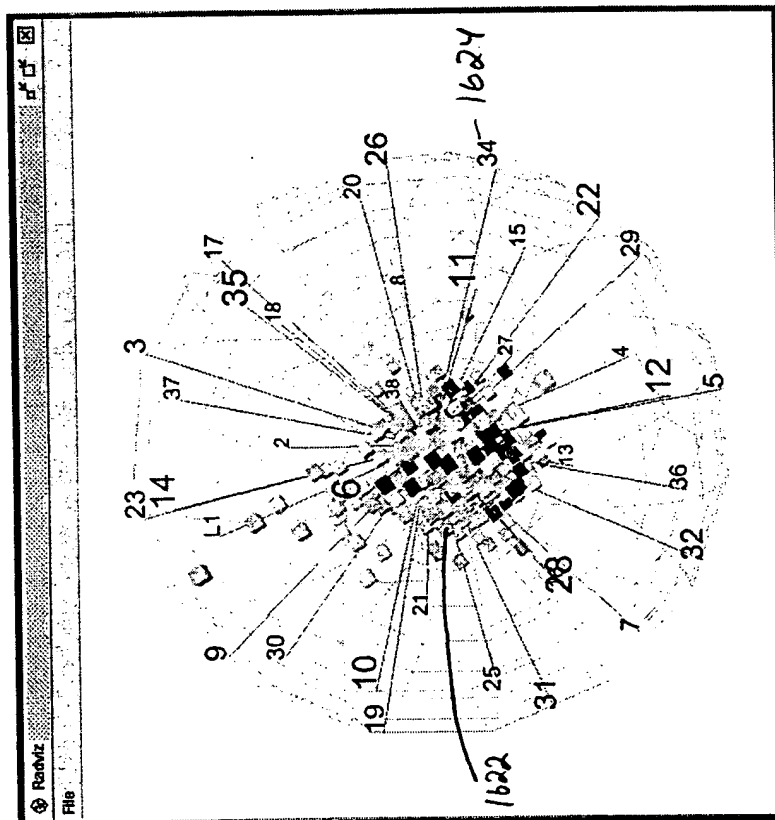
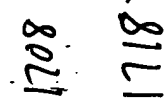


Fig. 16D



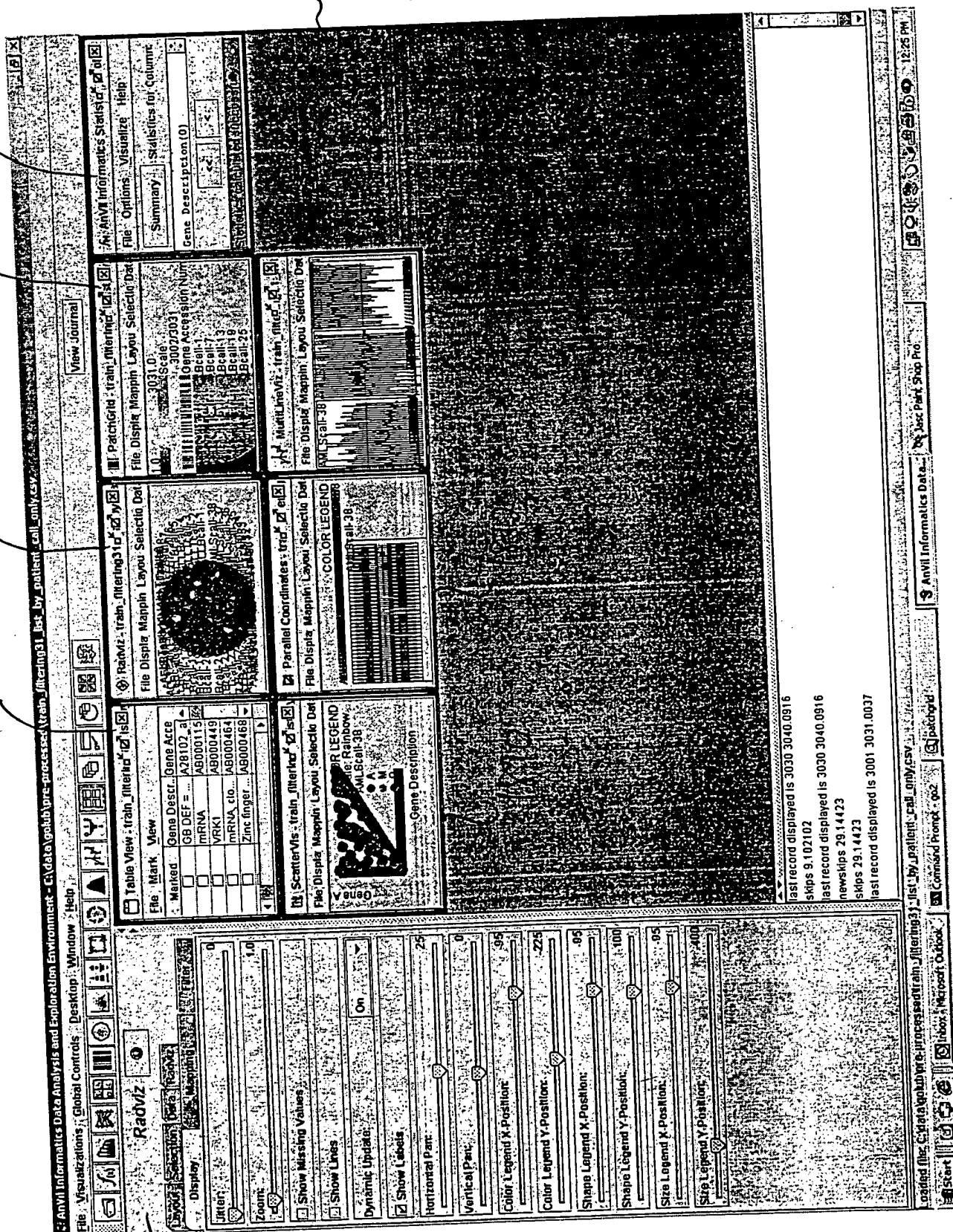
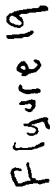


Fig. 18



1704r 8002 20077001

2002

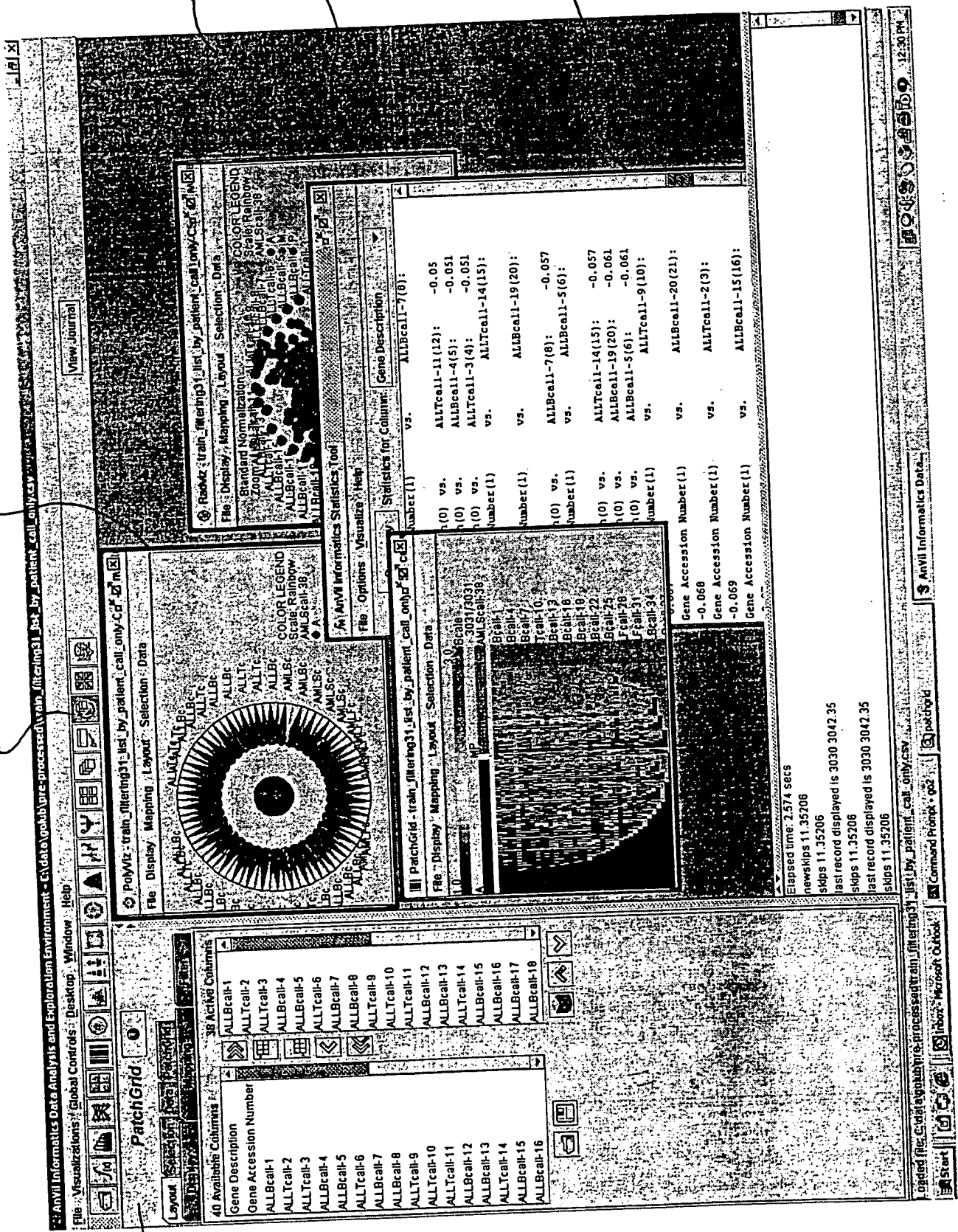
1708

1706

2006

2002

Figure 20



2174305

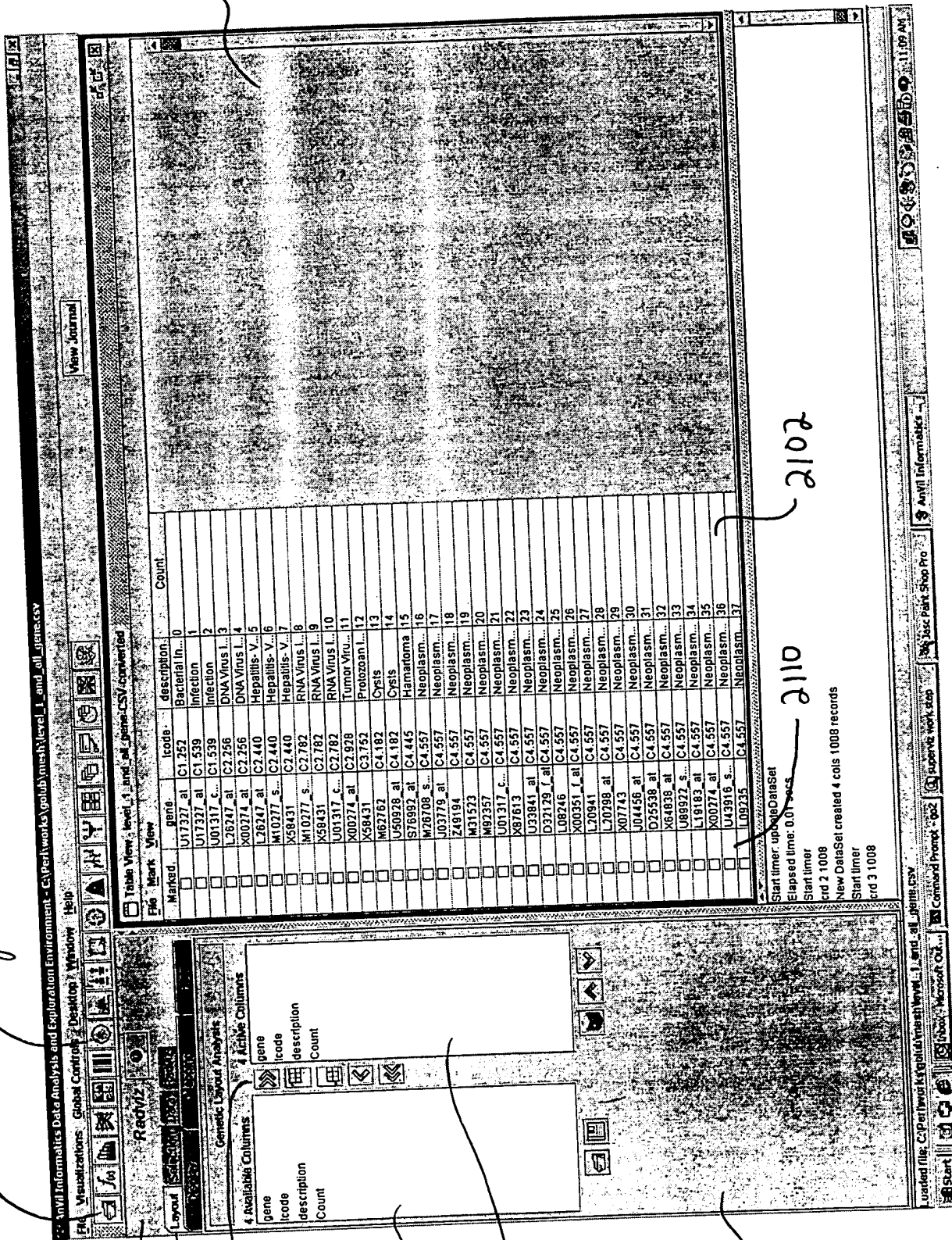
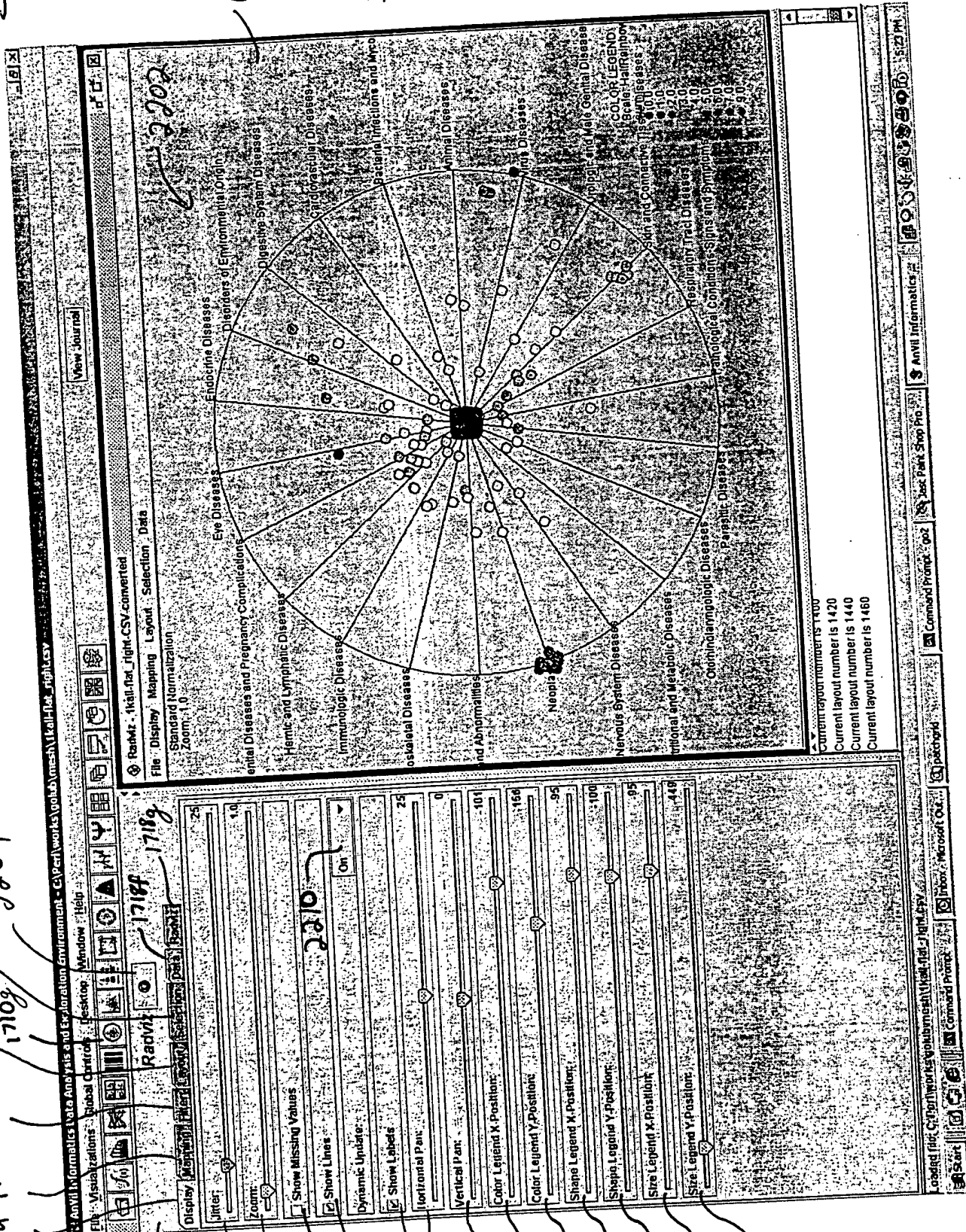


Figure 21

221891

Figure 22



1708
 1718
 2206a
 2206b
 2208a
 2208b
 2208c
 2206c
 2206d
 2206e
 2206f
 2206g
 2206h
 2206i
 2206j

1718a 1718b 1718c 1718d 1718e
 2204
 1710g

2200

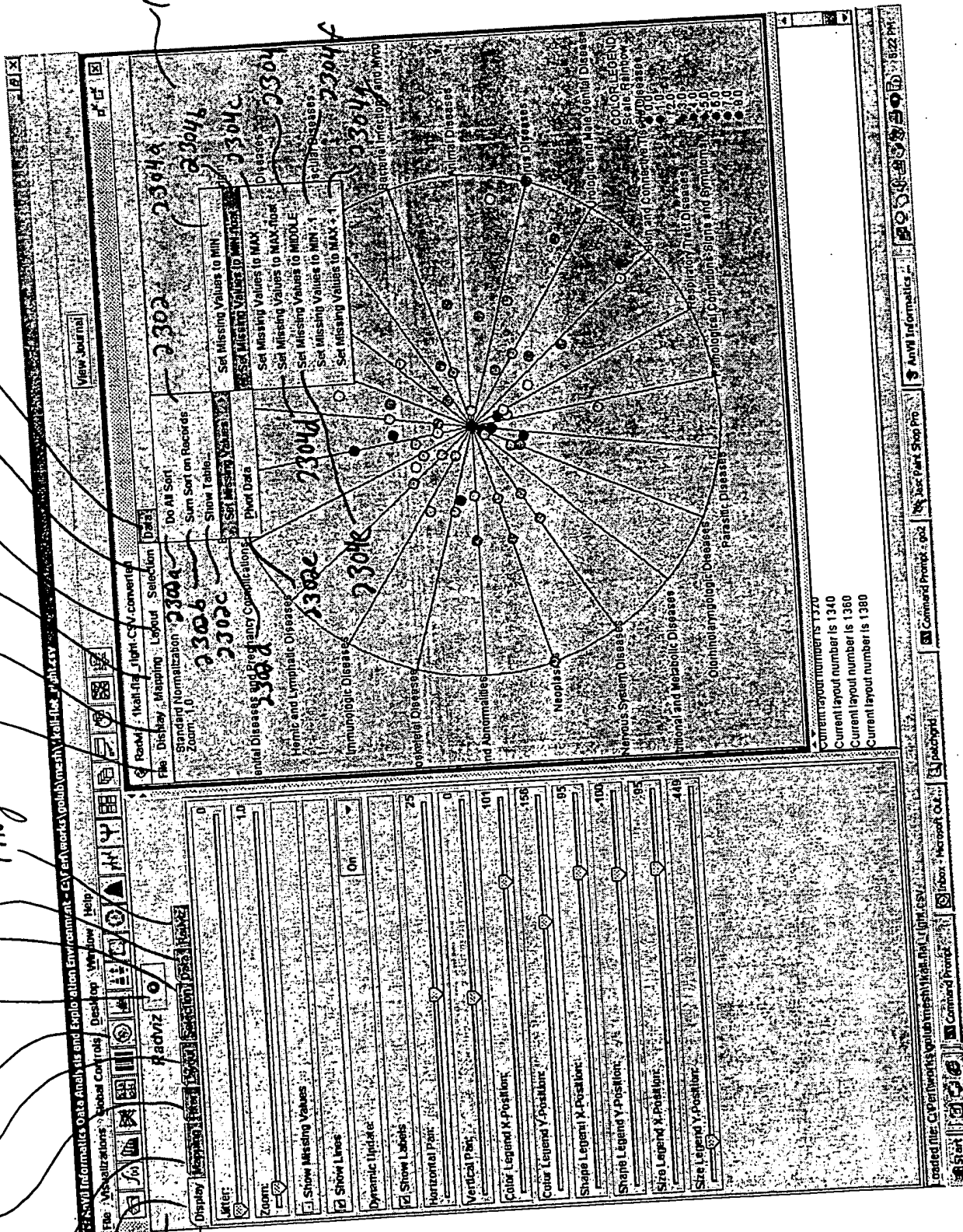
1706

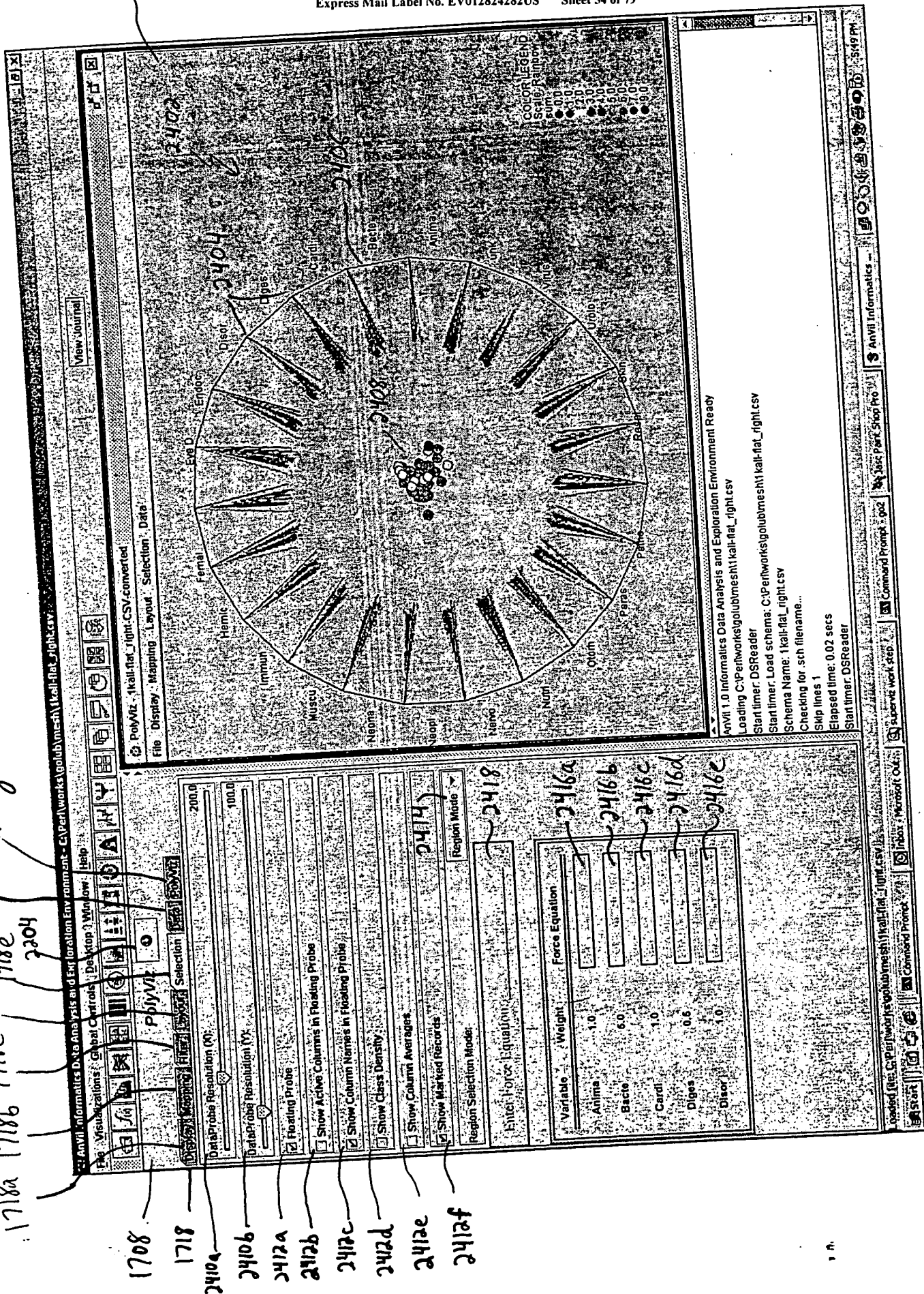
2202

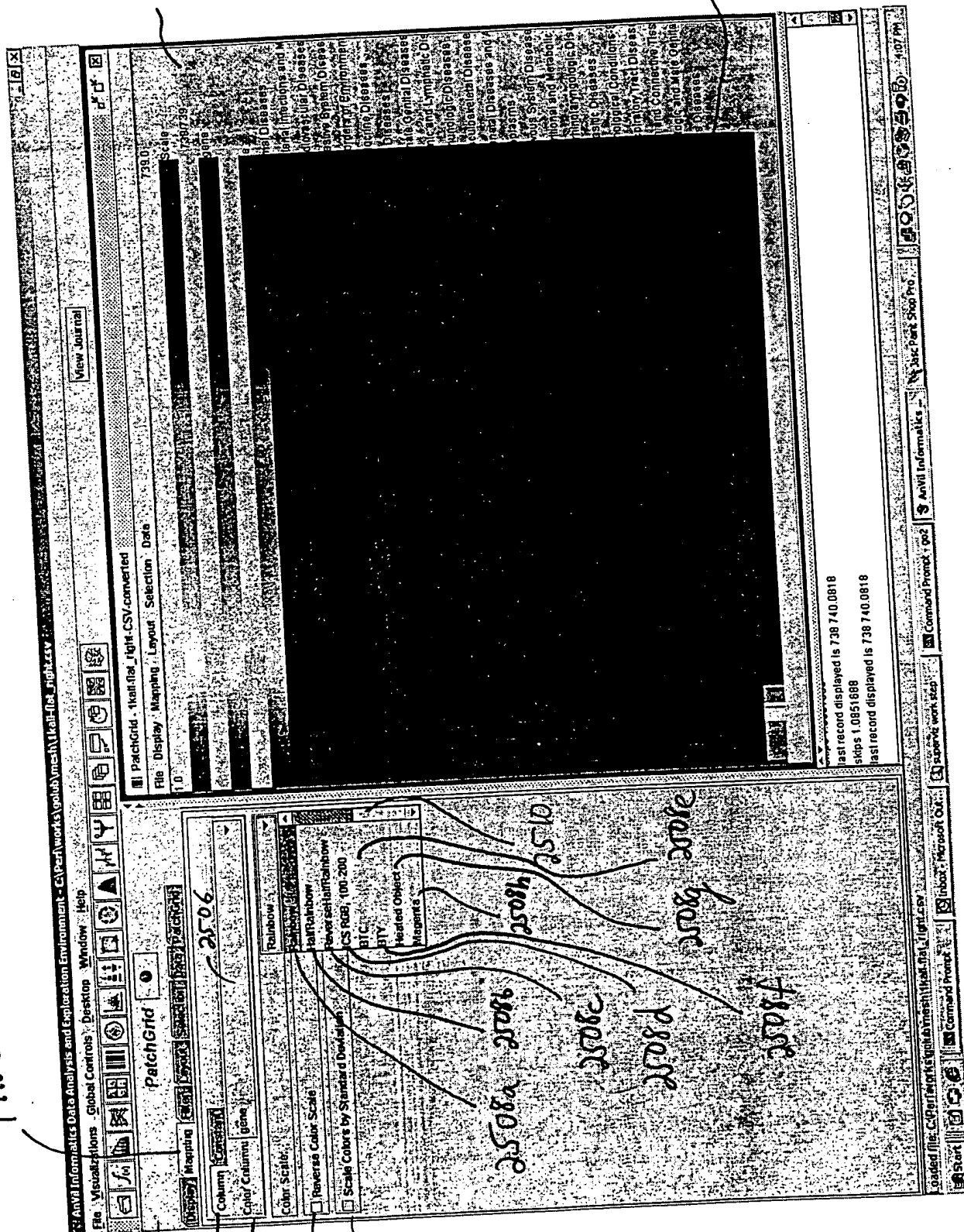
2210

1718f

1718g







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2218917

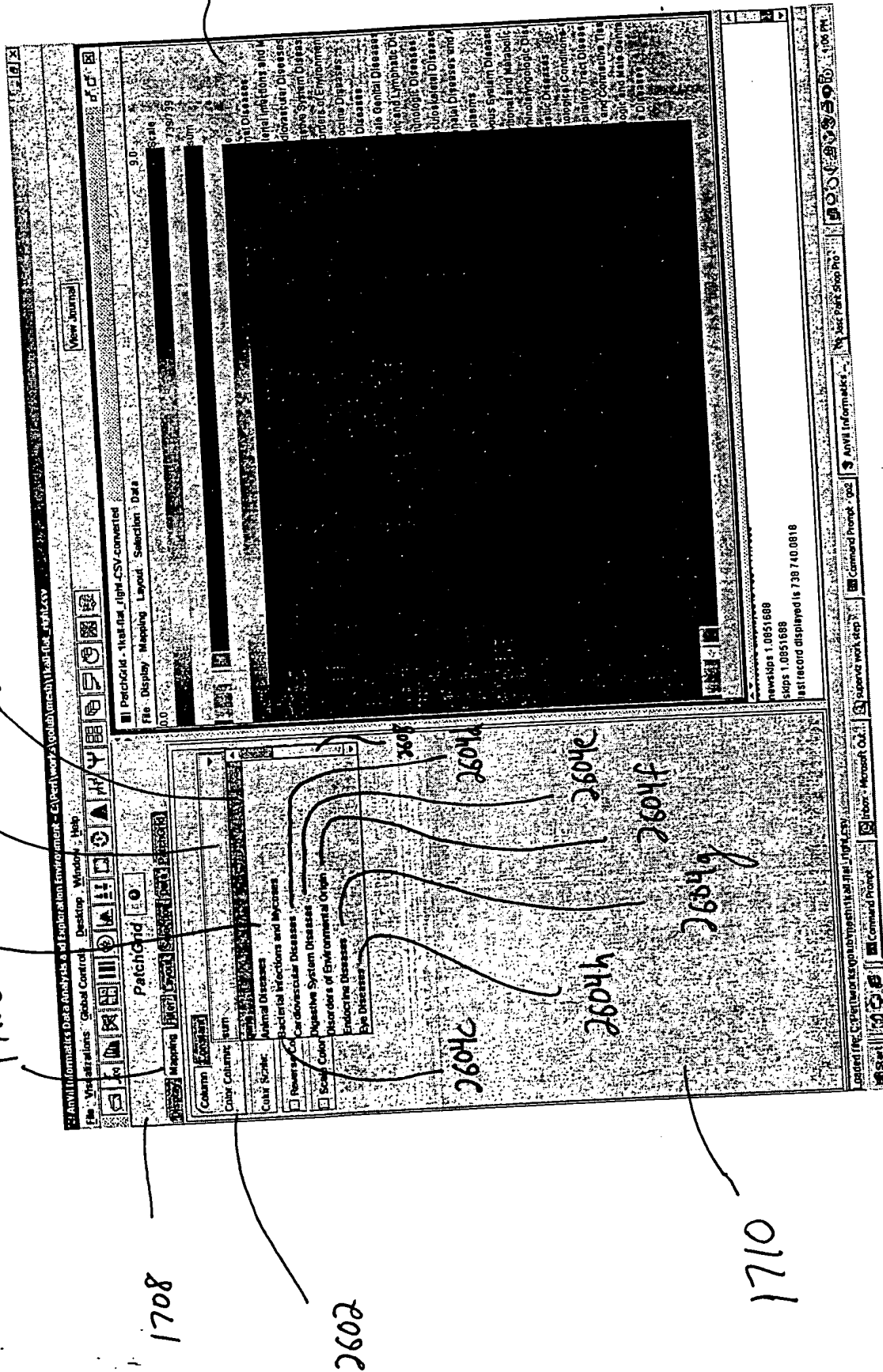


Figure 26

205100-46924001

2702

2702a

1718c

1708

2702c

2704

2706

2702

2710

1706

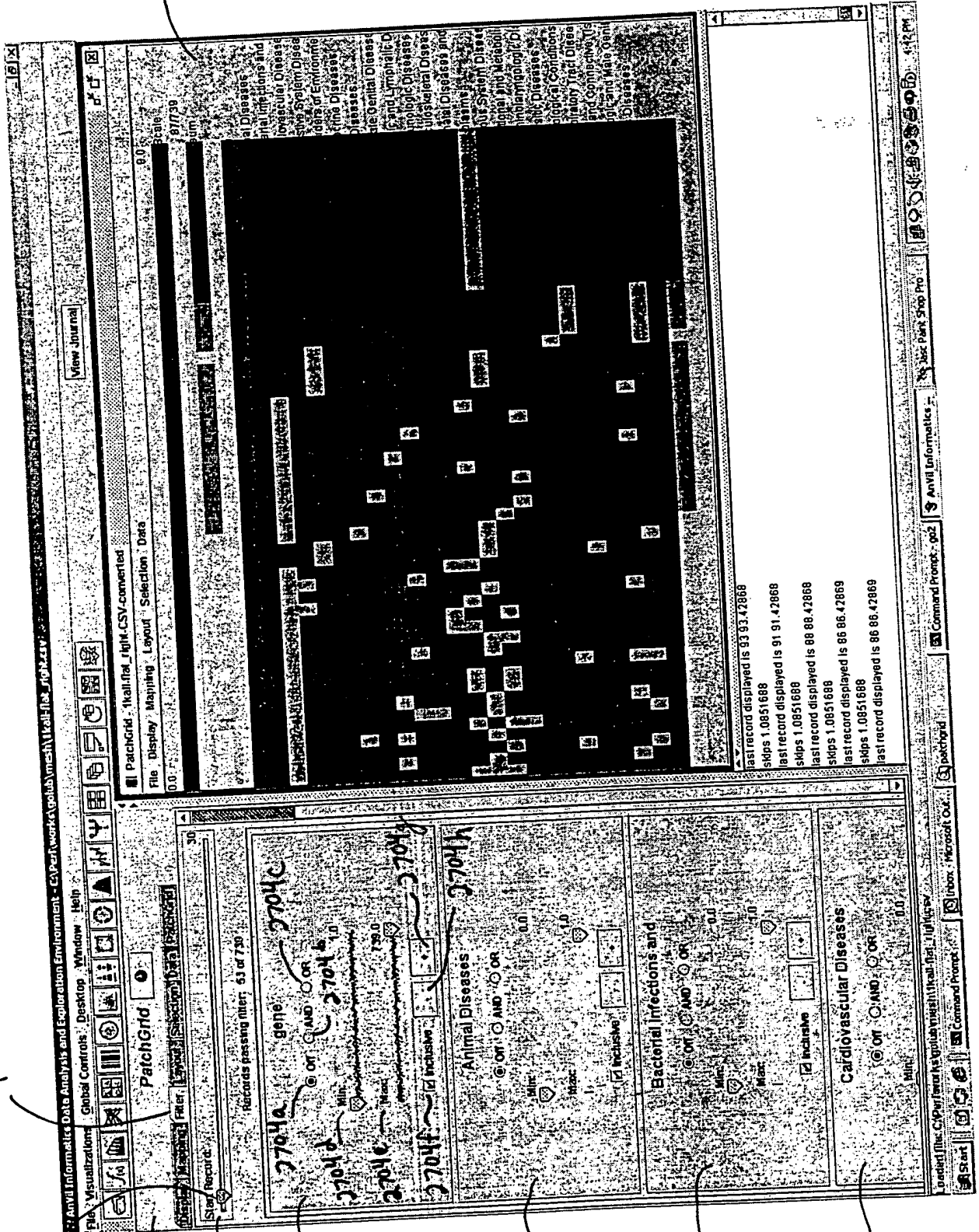


Figure 27

2218917

2800

1706

221891

005120" 1654001

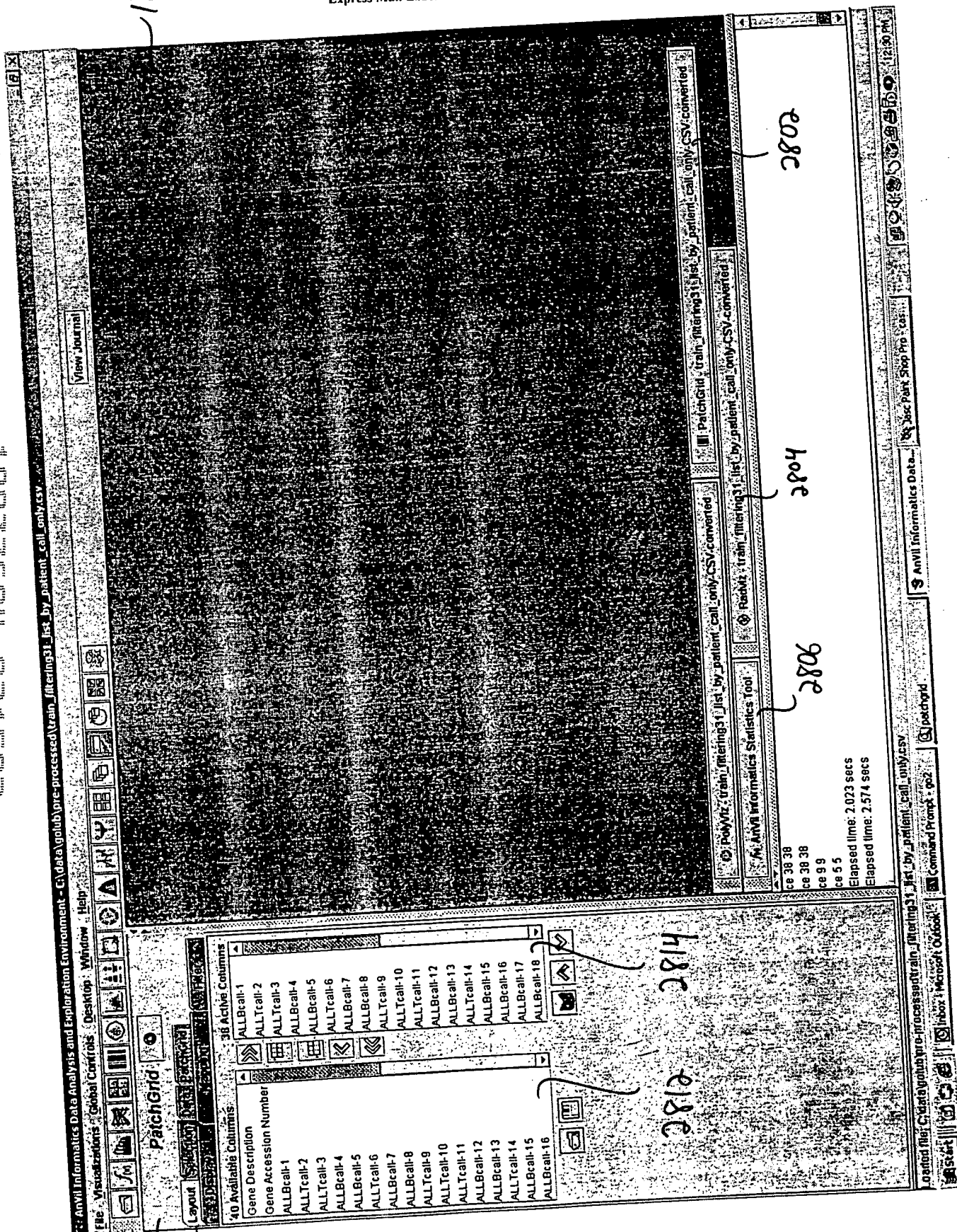
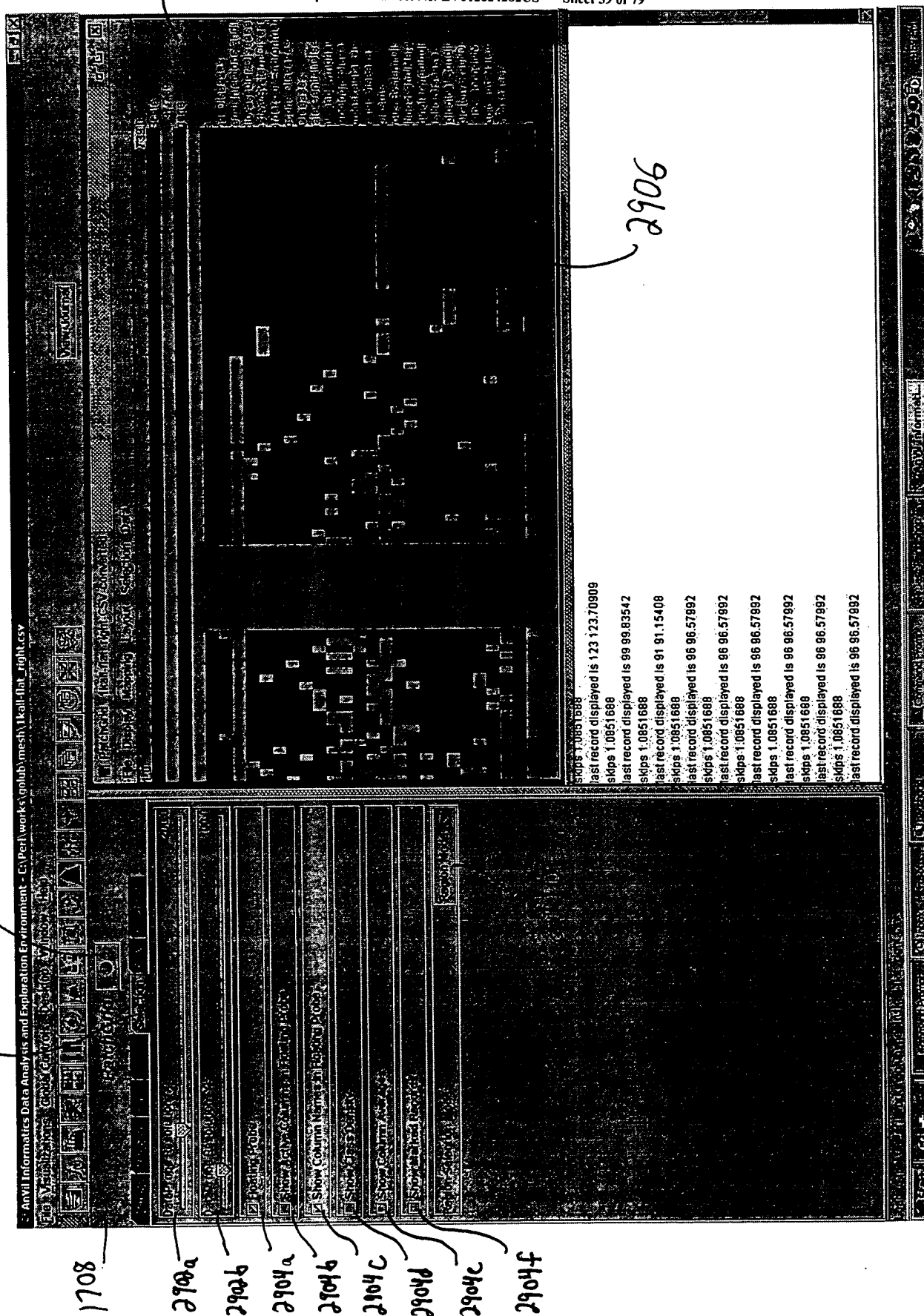


Figure 28

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1708

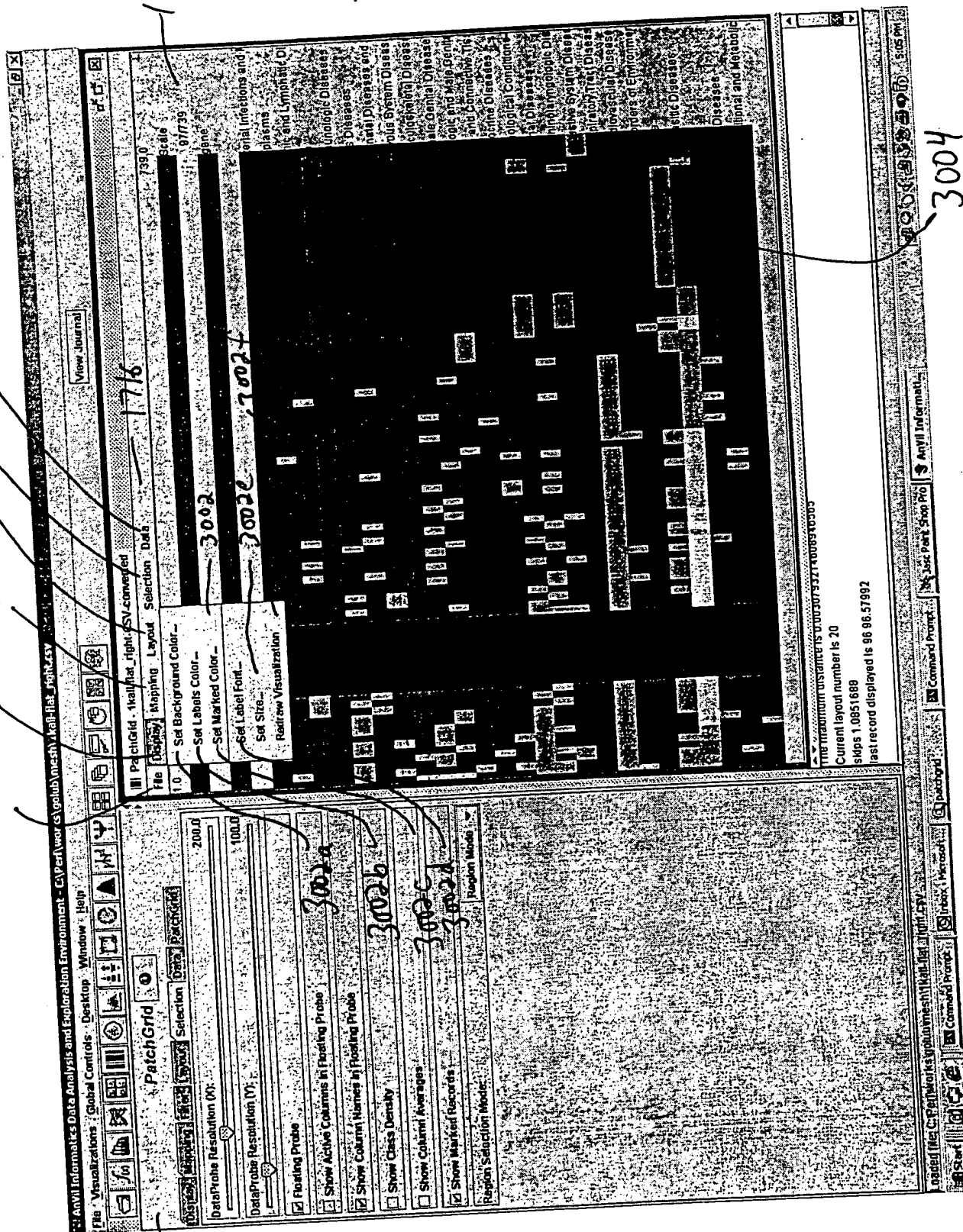


Figure 30

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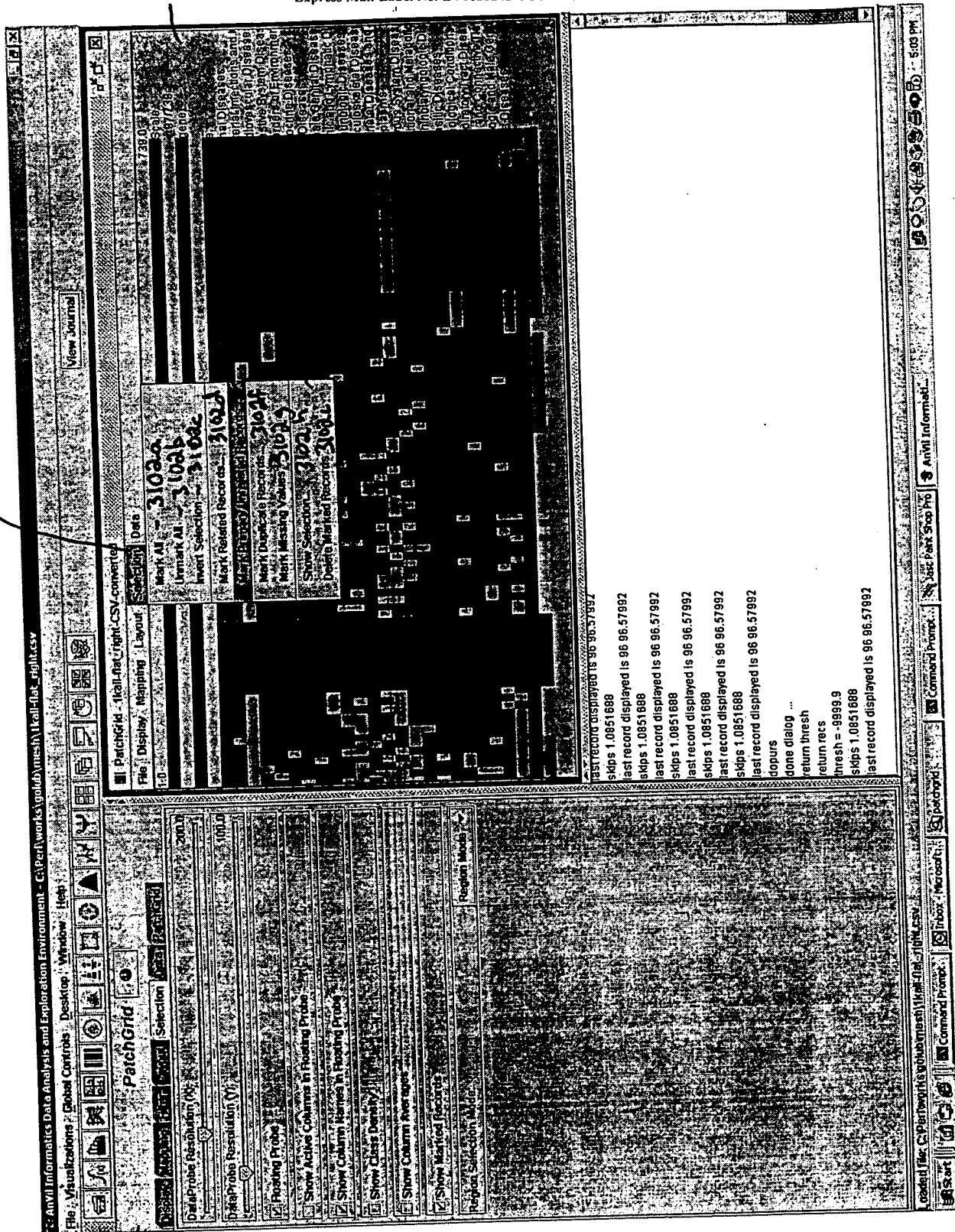


Figure 31

3200

1706

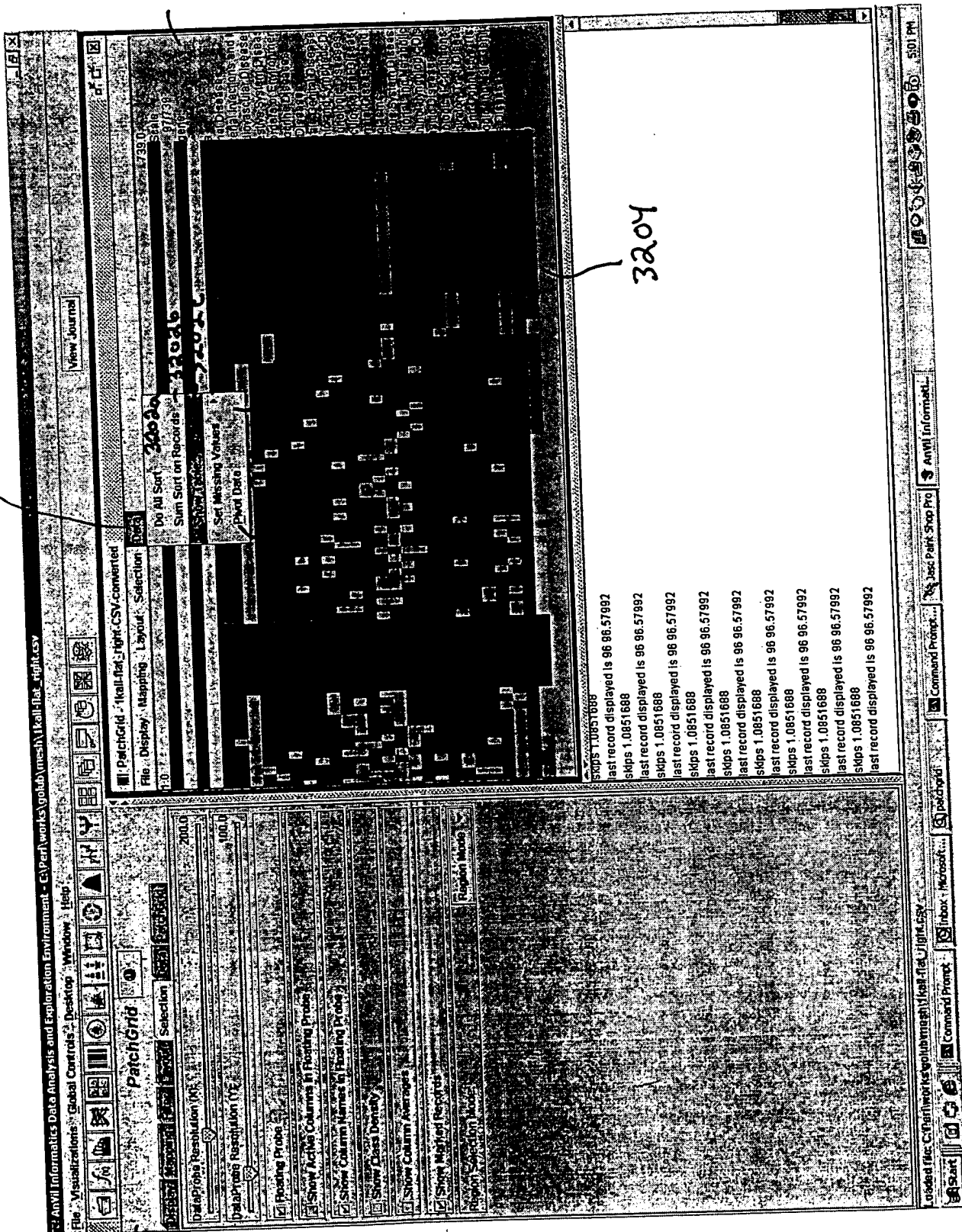


Figure 32

1708

Treatment Outcome Prediction

Chemotherapy

- 76 Gene Predictor Set
 - Success
 - Failure
- Boundary

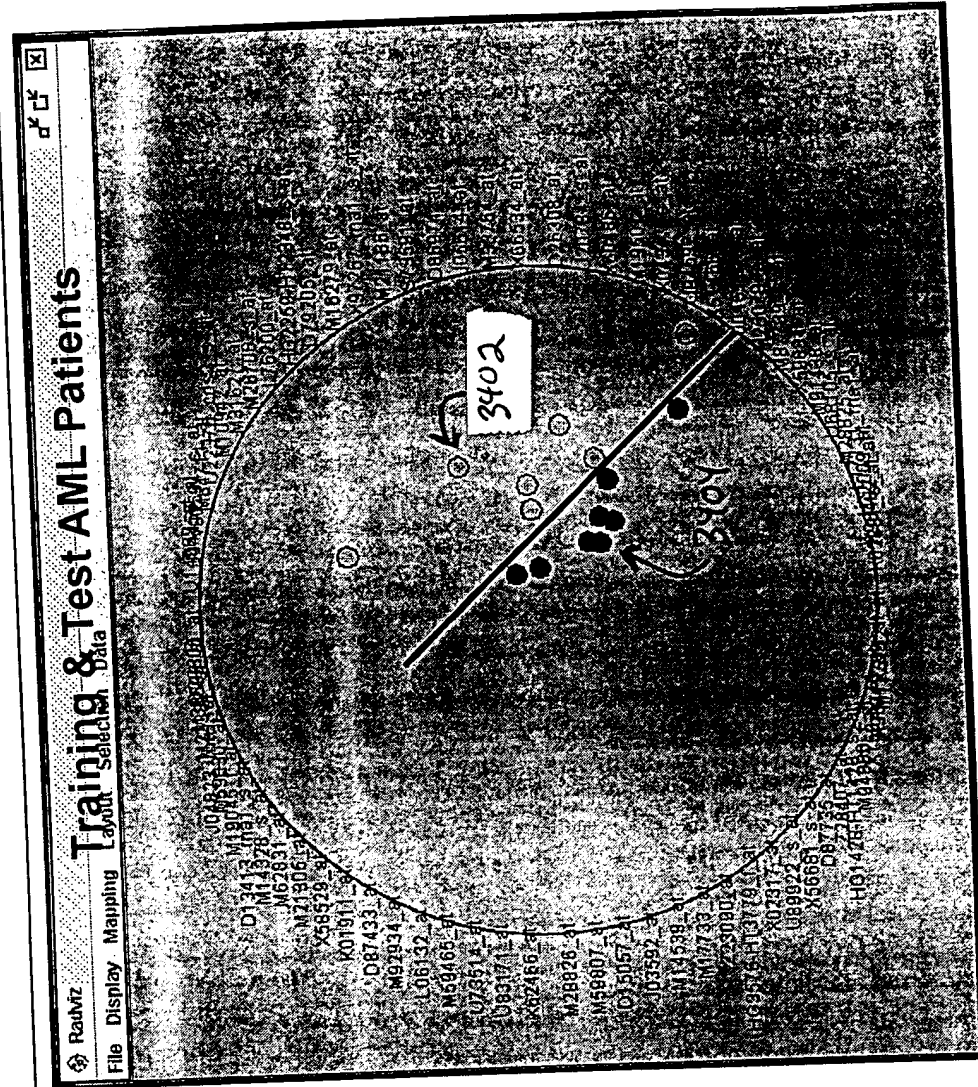


Figure 34

2259884

Reduced Genes

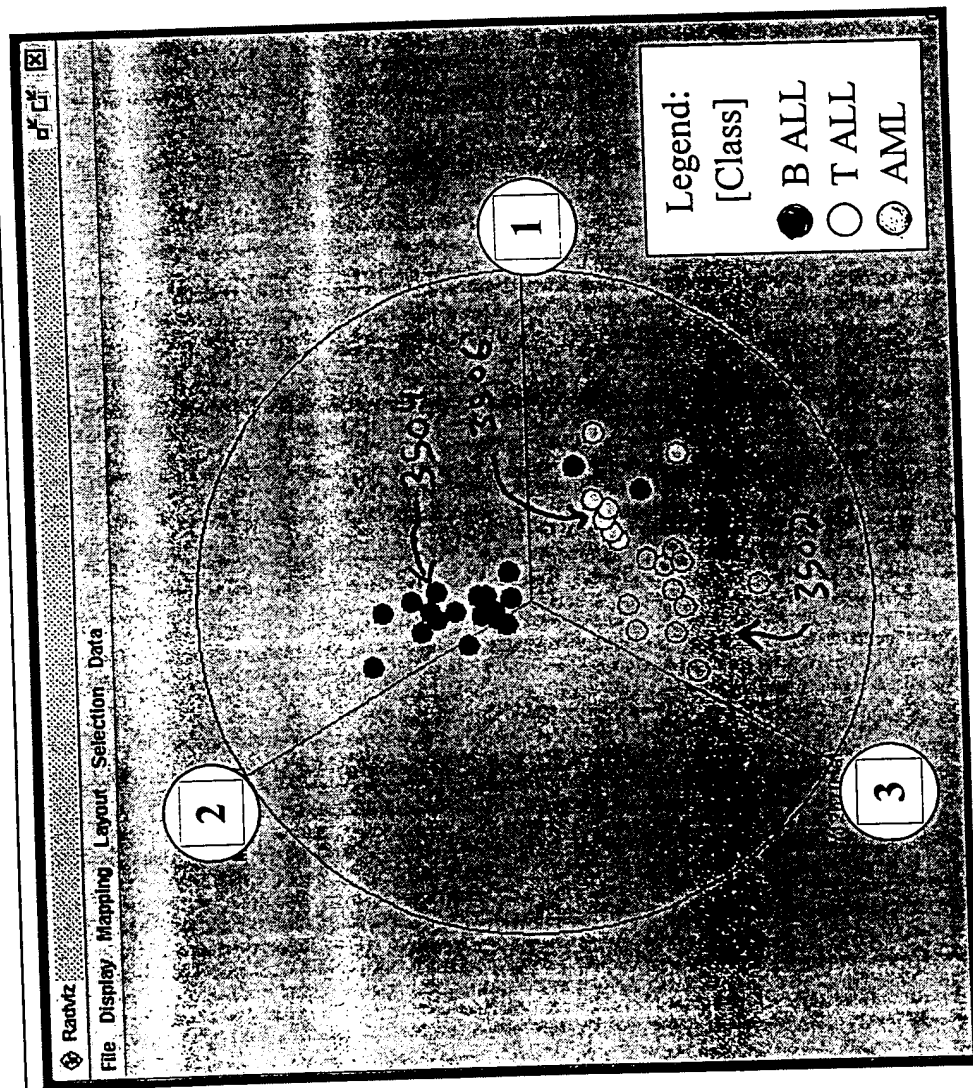


Figure 35

2259884

205420-1692004

Chemical Structure

Benzodiazepines

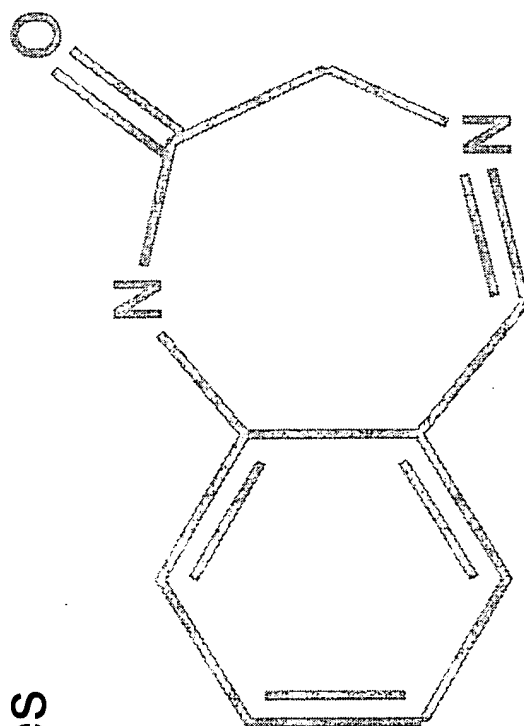


Figure 36

Radial Visualization Showing R_3 Attributes

Color Legend:
Half Rainbow
Selectivity
Inactive
Active

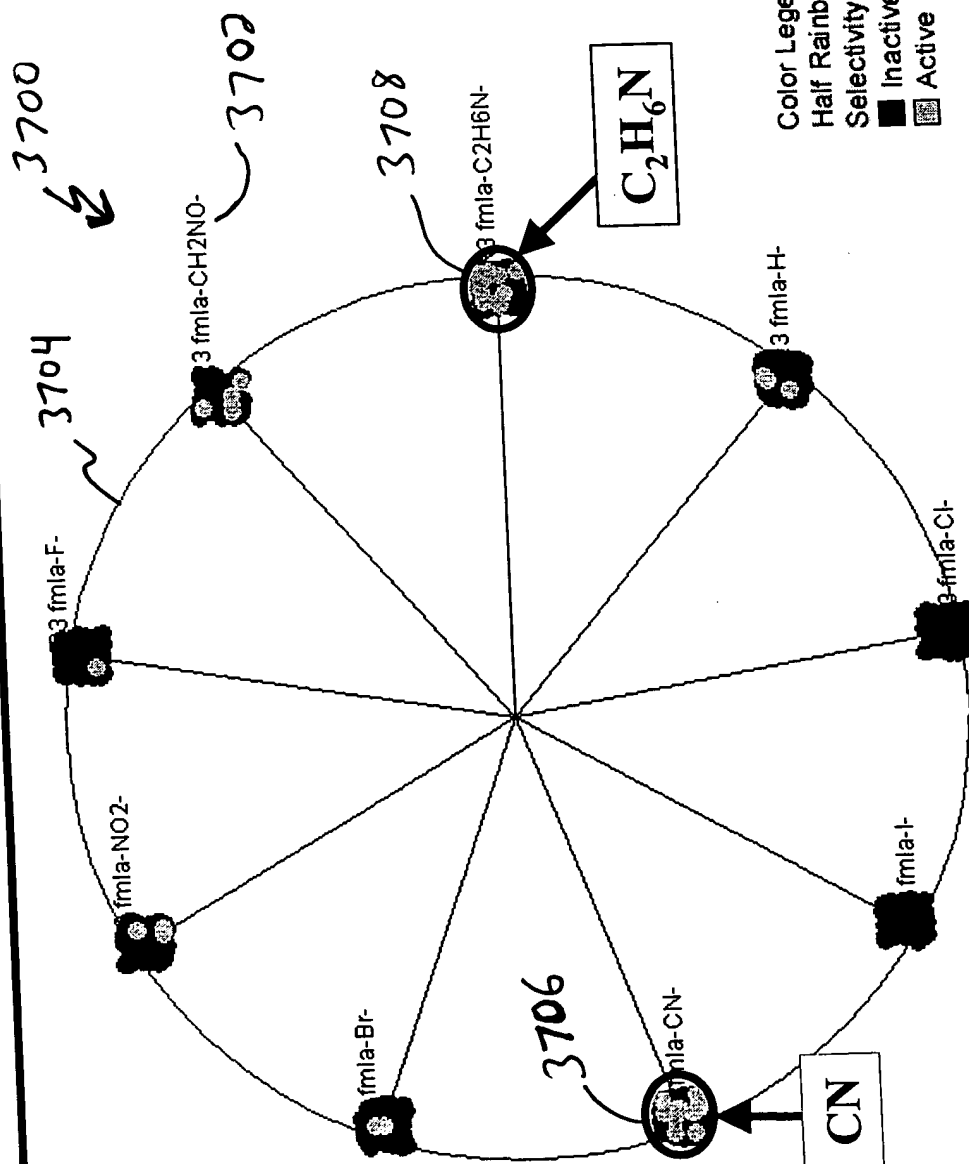


Figure 37

2273661

Radial Visualization Showing R_3 & R_4 Attributes

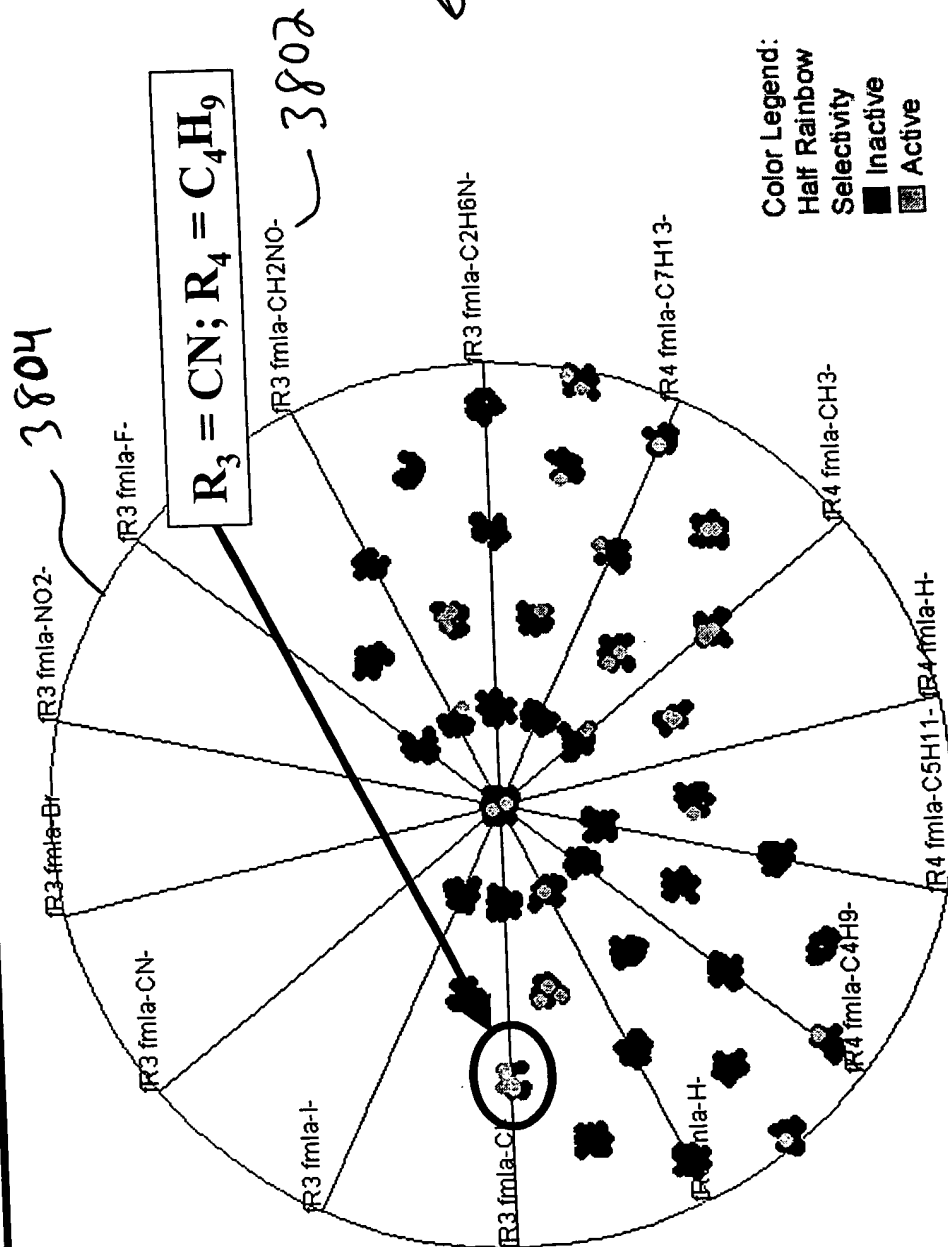
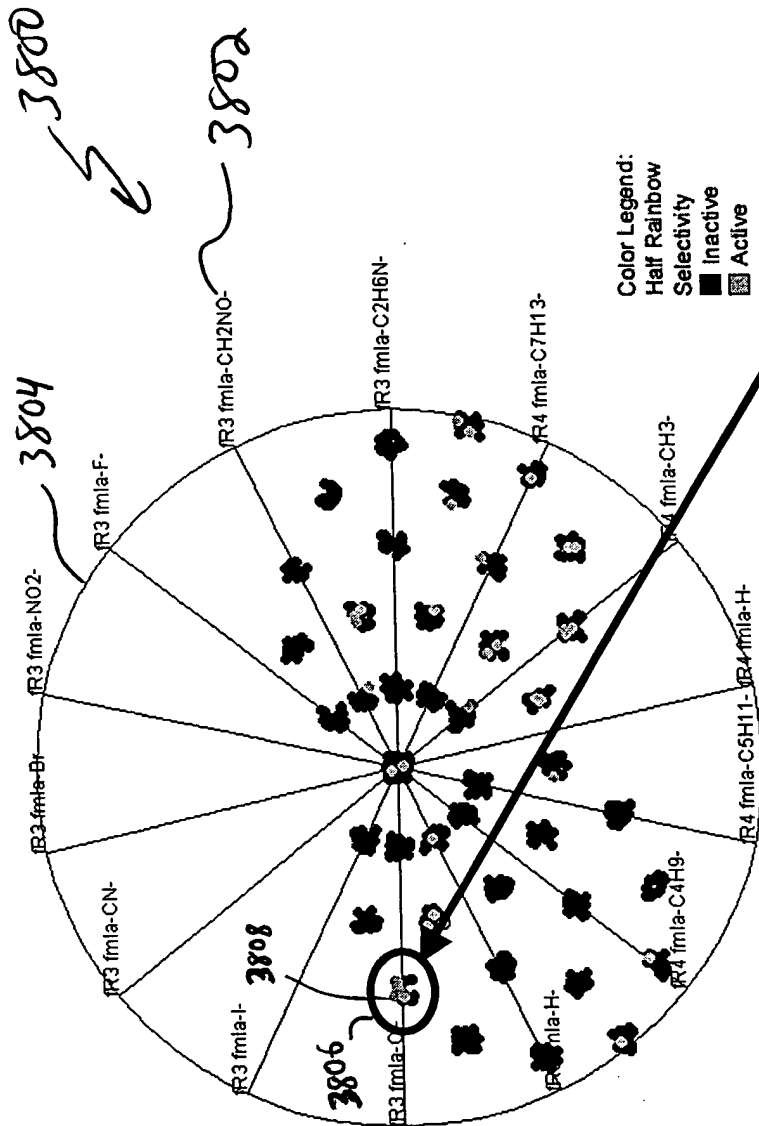


Figure 38

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Radial Visualization Showing R₃ & R₄ Attributes

Radial Visualization



Color Legend:
Half Rainbow
Selectivity
Inactive
Active

Record	LC/MS	Assay 1	Assay 2	Kd 1	Kd 2	R1	R2	R3	R4	S5	Select
937	pass	0.087	355.5	591.7	9.51	C5H5-	C6H11-	CN-	C4H9-	3.00	good
937	pass	0.01	456.4	0.87	0.11	CH3-	C6H11-	CN-	C4H9-	4.43	good
937	pass	0.007	358.8	44.7	3.89	H-	C6H5-	CN-	C4H9-	5.58	good
937	pass	0.002	495.8	78.35	57.52	C9H8N-	C6H11-	CN-	C4H9-	6.44	good

Figure 39

Radial Visualization Showing R₃, R₄ & S₅ Attributes

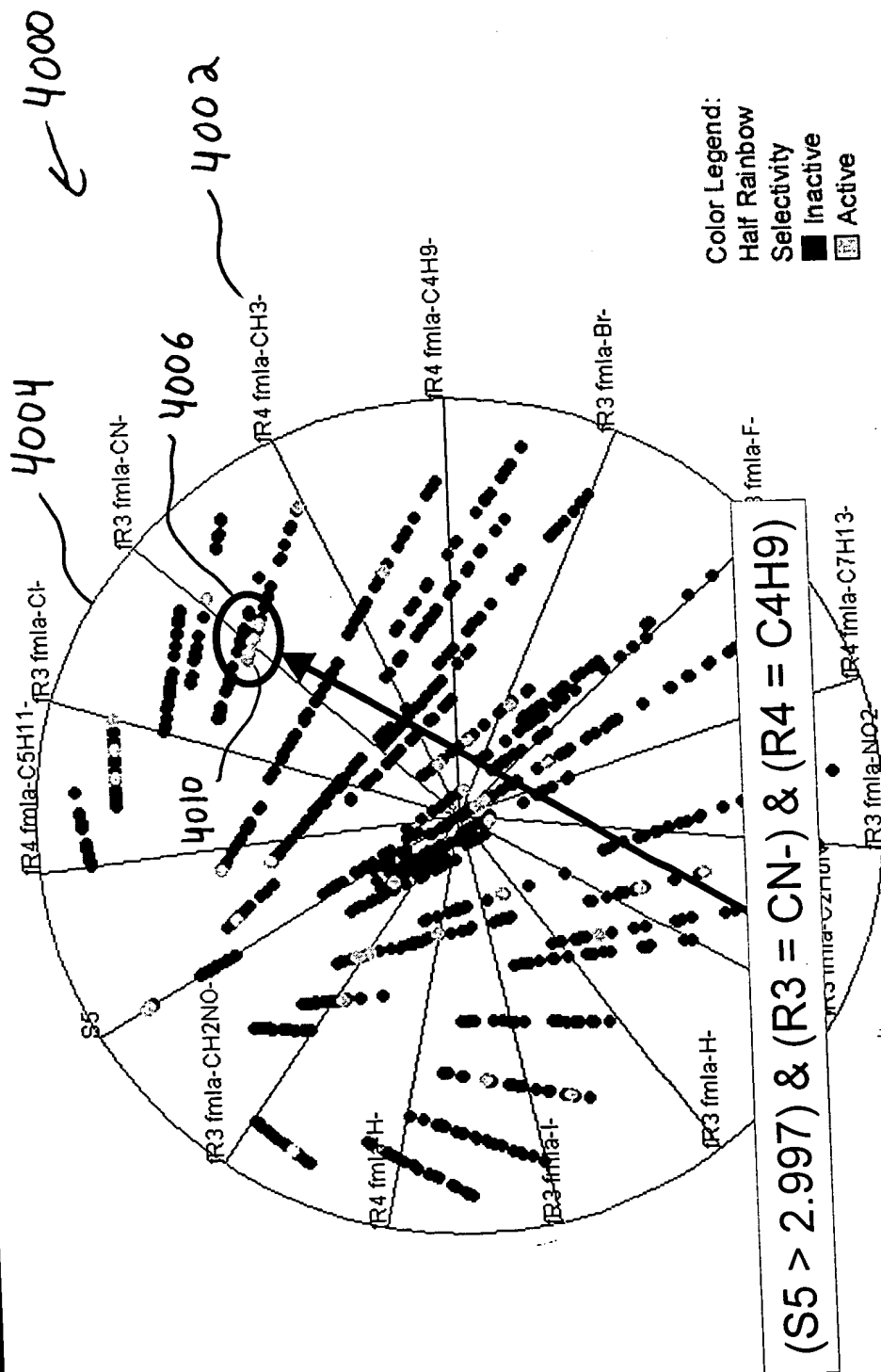
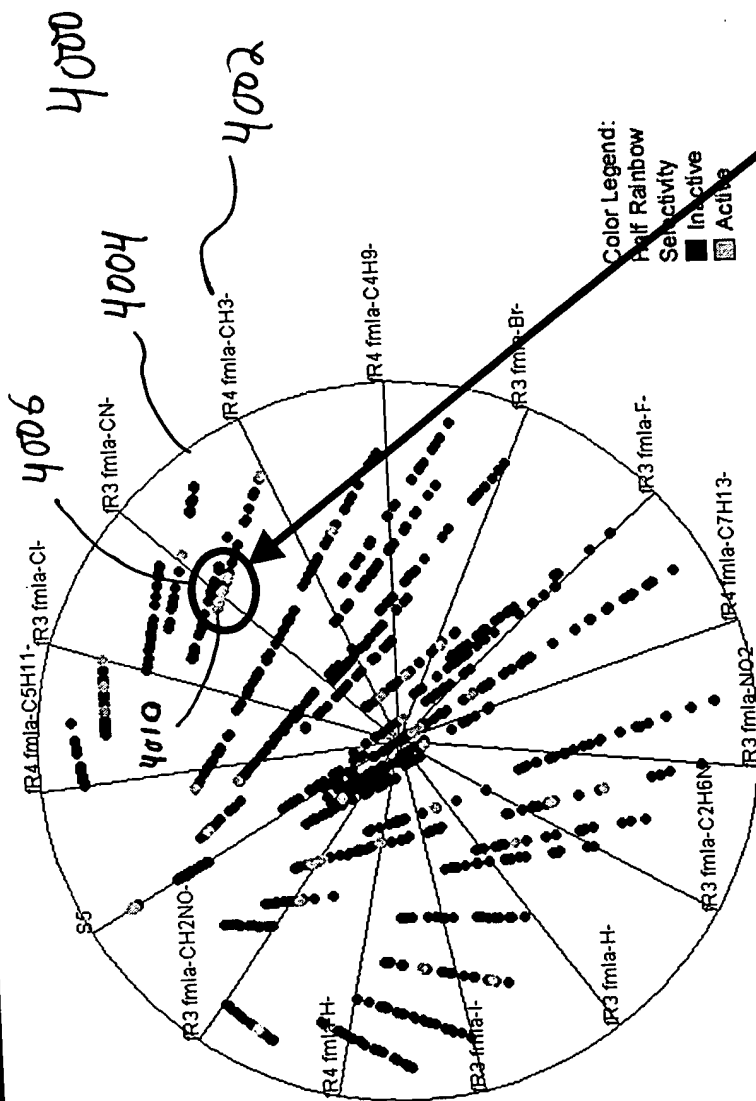


Figure 40

2025120716342001

Radial Visualization Showing R₃, R₄ & S₅ Attributes

Radial Visualization



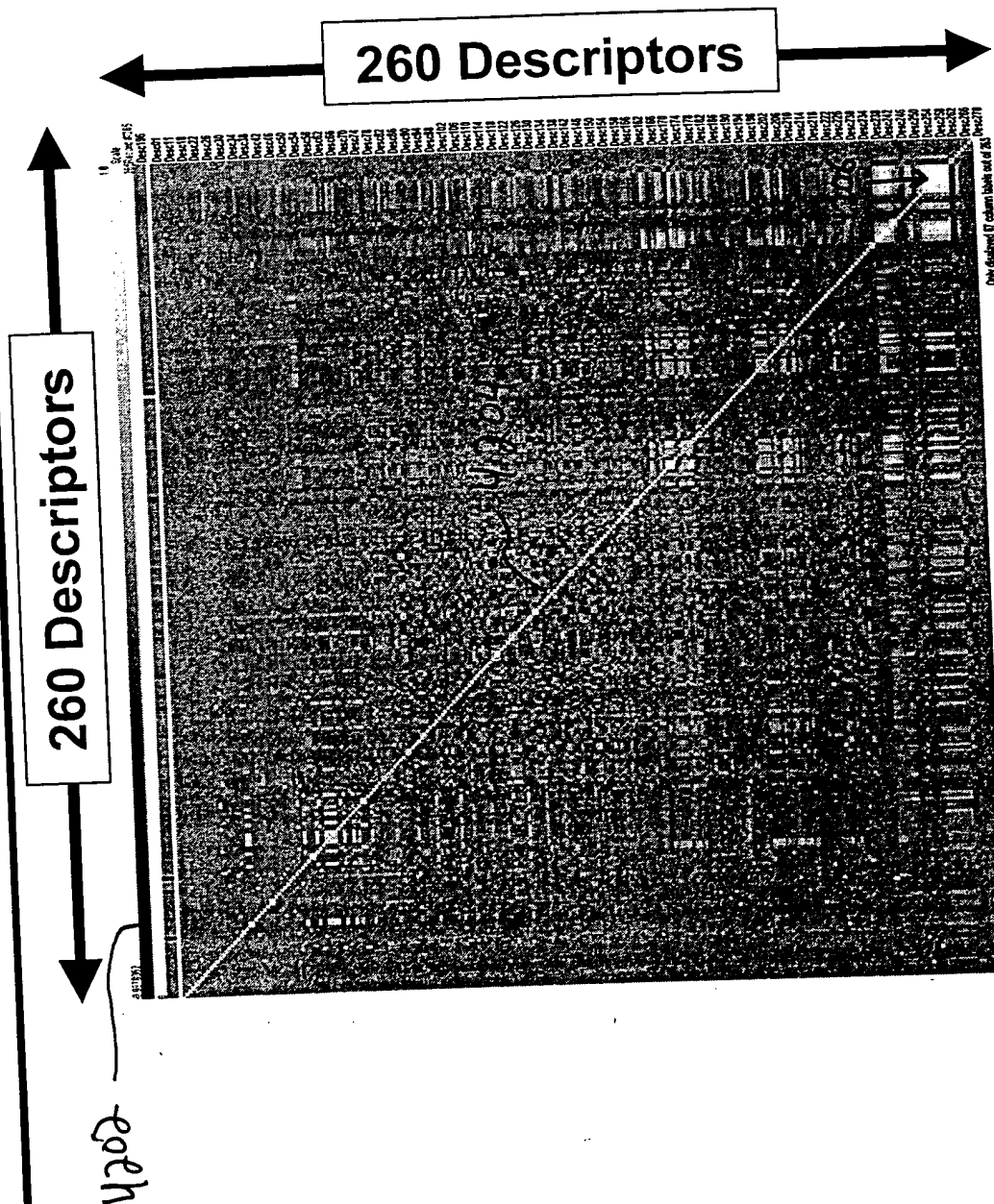
Record	LC/MS	Assay 1	Assay 2	Kd 1	Kd 2	R1	R2	R3	R4	S5	Select.
937	pass	0.087	355.5	591.7	9.51	C5H5-	C6H11-	CN-	C4H9-	3.00	good
951	pass	0.01	456.4	0.87	0.11	CH3-	C6H11-	CN-	C4H9-	4.43	good
953	pass	0.007	358.8	44.7	3.89	H-	C6H5-	CN-	C4H9-	5.58	good
956	pass	0.002	495.8	78.35	57.52	C9H8N-	C6H11-	CN-	C4H9-	6.44	good
958	pass	0.001	305.8	0.14	7.6	H-	C6H11-	CN-	C4H9-	7.08	good

Figure 41

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2025-10-20

Pearson Cross Correlations



Title: Method And System For Data Analysis
Inventor(s): Gee et al.
Serial No. Not yet assigned
Docket No. ANV-001
Contact: John V. Bianco 617-248-7870
Express Mail Label No. EV012824282US Sheet 72 of 79

Figure 42

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ISIS Keys

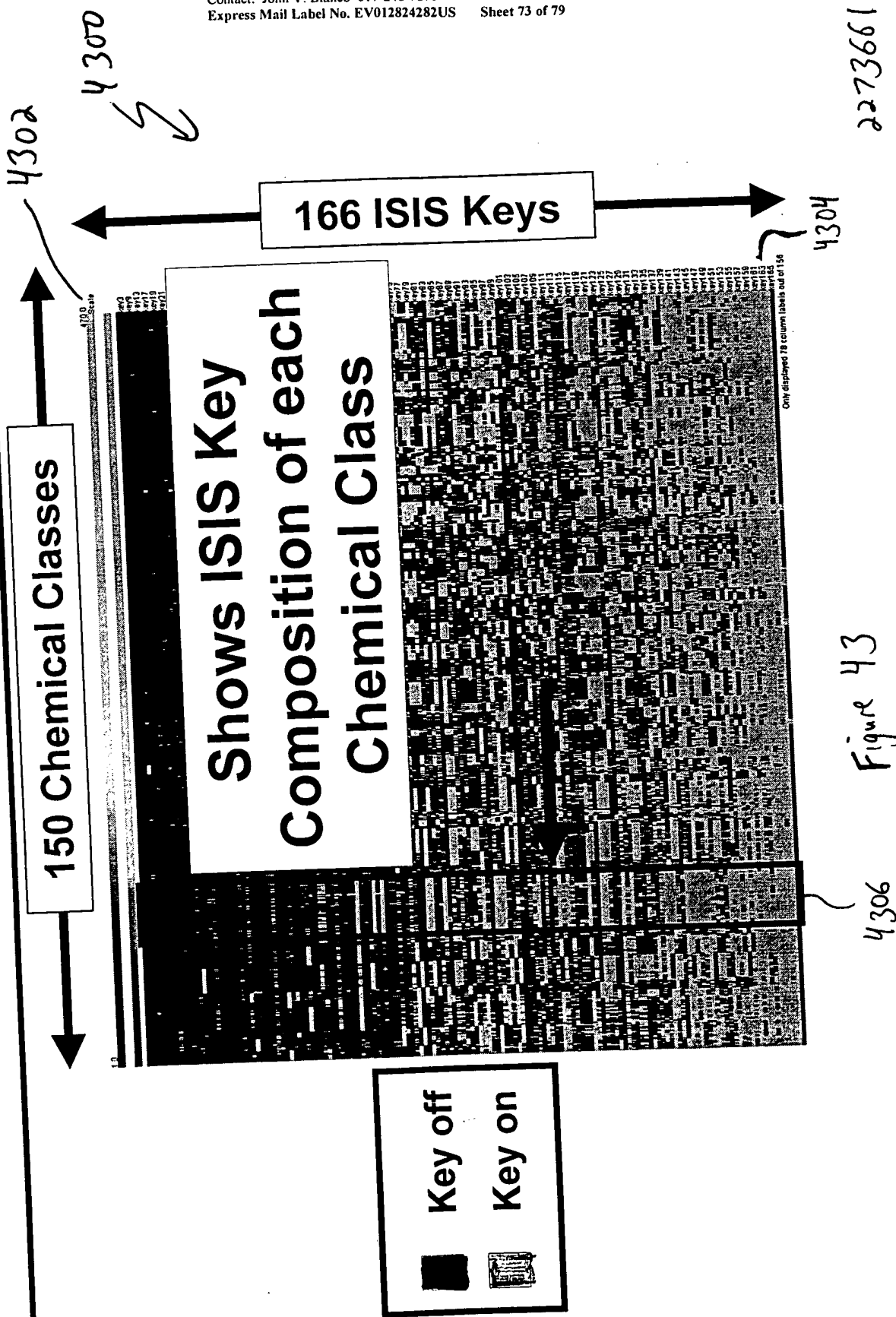
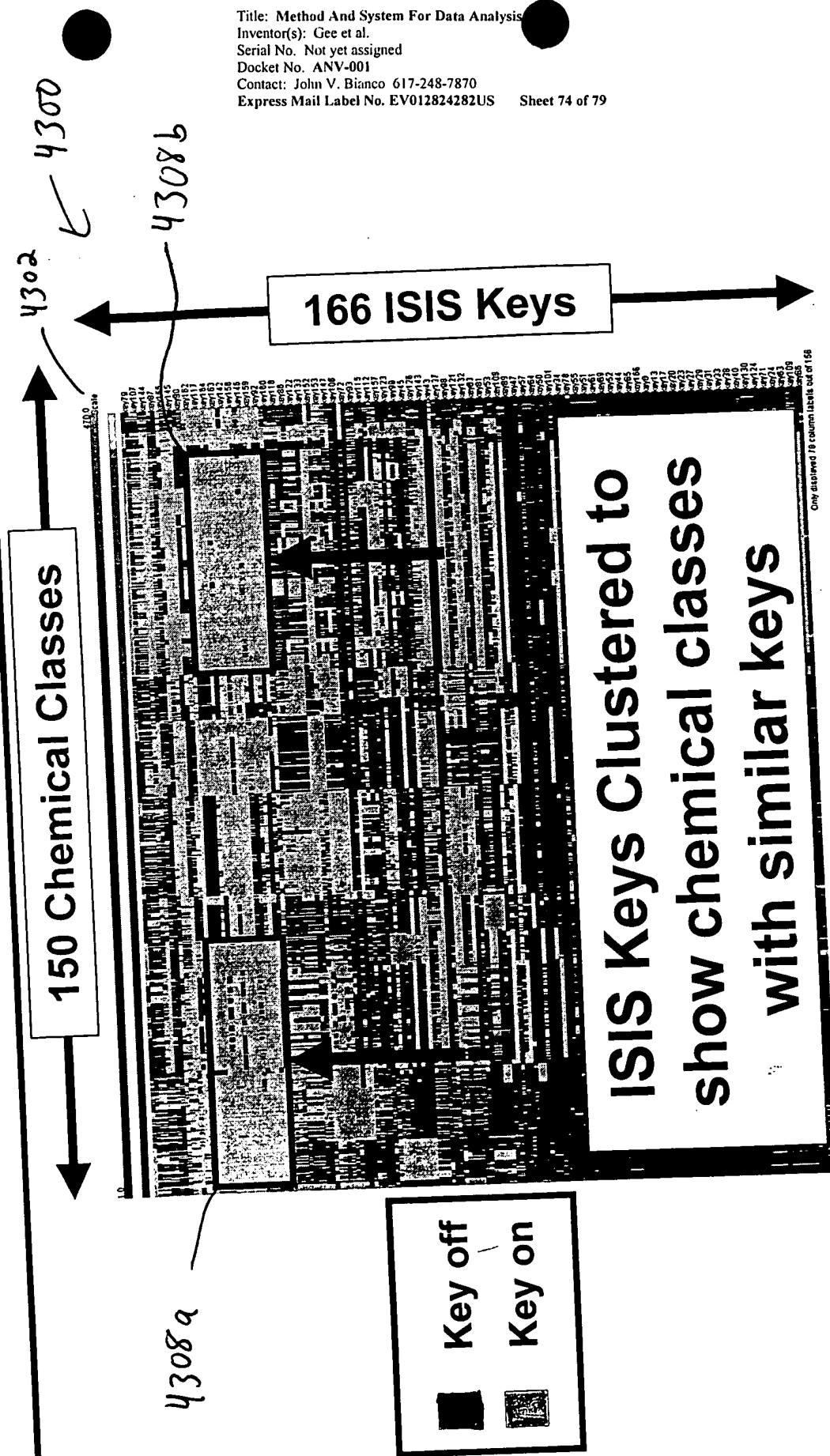


Figure 43

2273661

2025-10-16 14:00

ISIS Keys



Title: Method And System For Data Analysis
Inventor(s): Gee et al.
Serial No. Not yet assigned
Docket No. ANV-001
Contact: John V. Bianco 617-248-7870
Express Mail Label No. EV012824282US Sheet 74 of 79

Figure 44

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205F20-4694200F

Association Rules - Visually

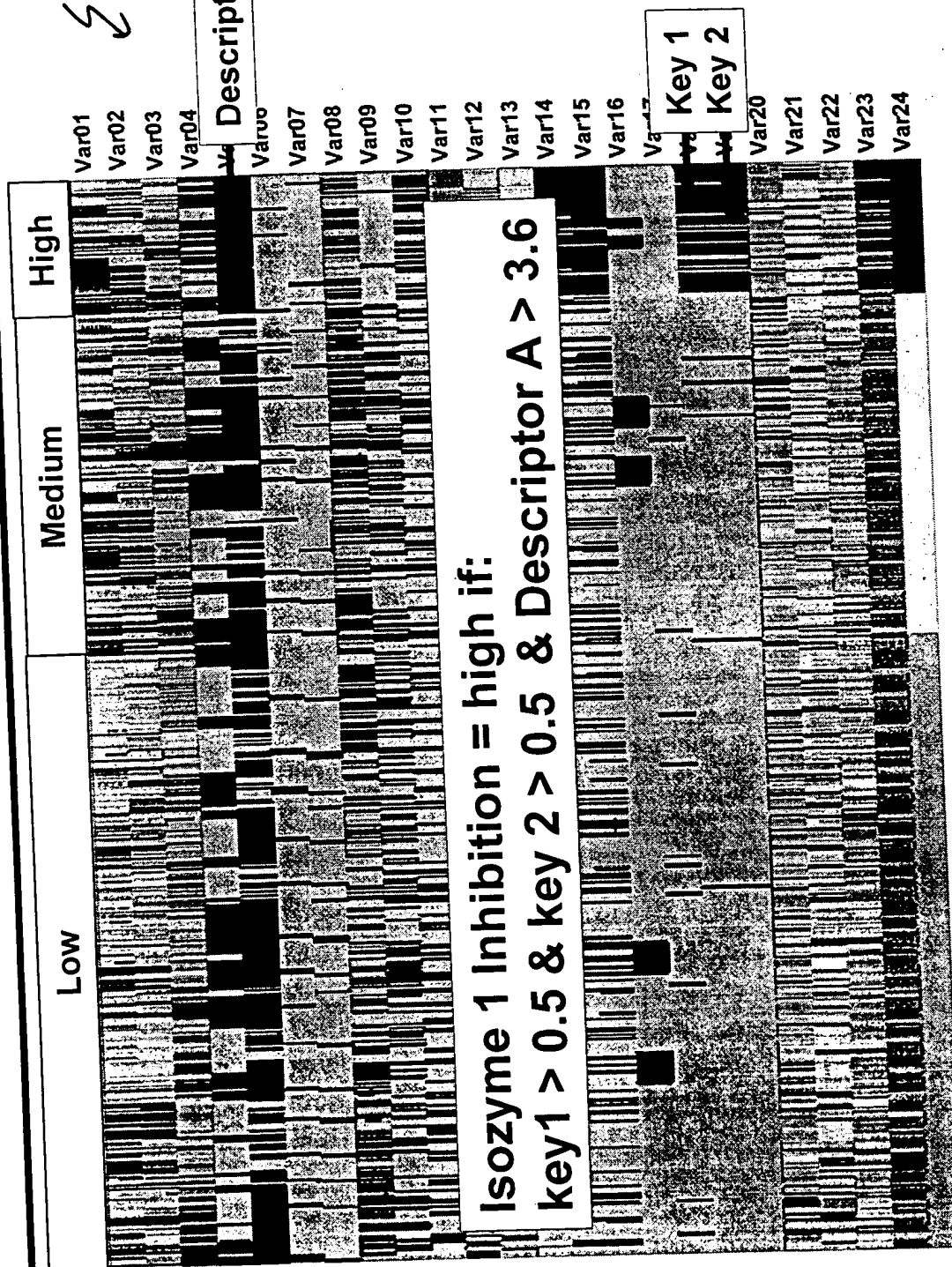


Figure 45

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Exploratory Overview

Title: Method And System For Data Analysis
 Inventor(s): Gee et al.
 Status: Not yet assigned
 Document No. ANV-001
 Contact: John V. Bianco 617-248-7870
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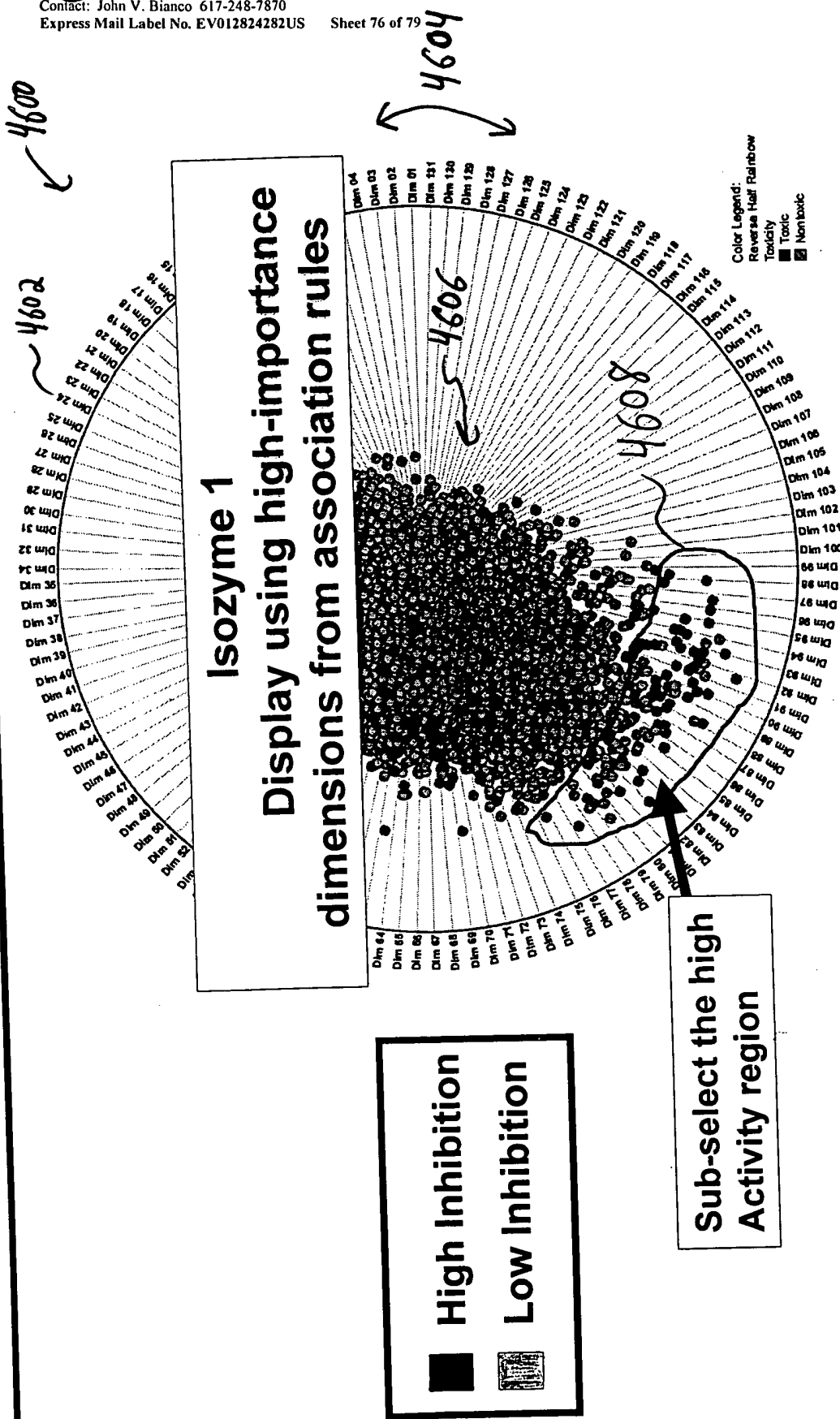


Figure 46

2084985-1

2023-10-20

Toxic Distinction

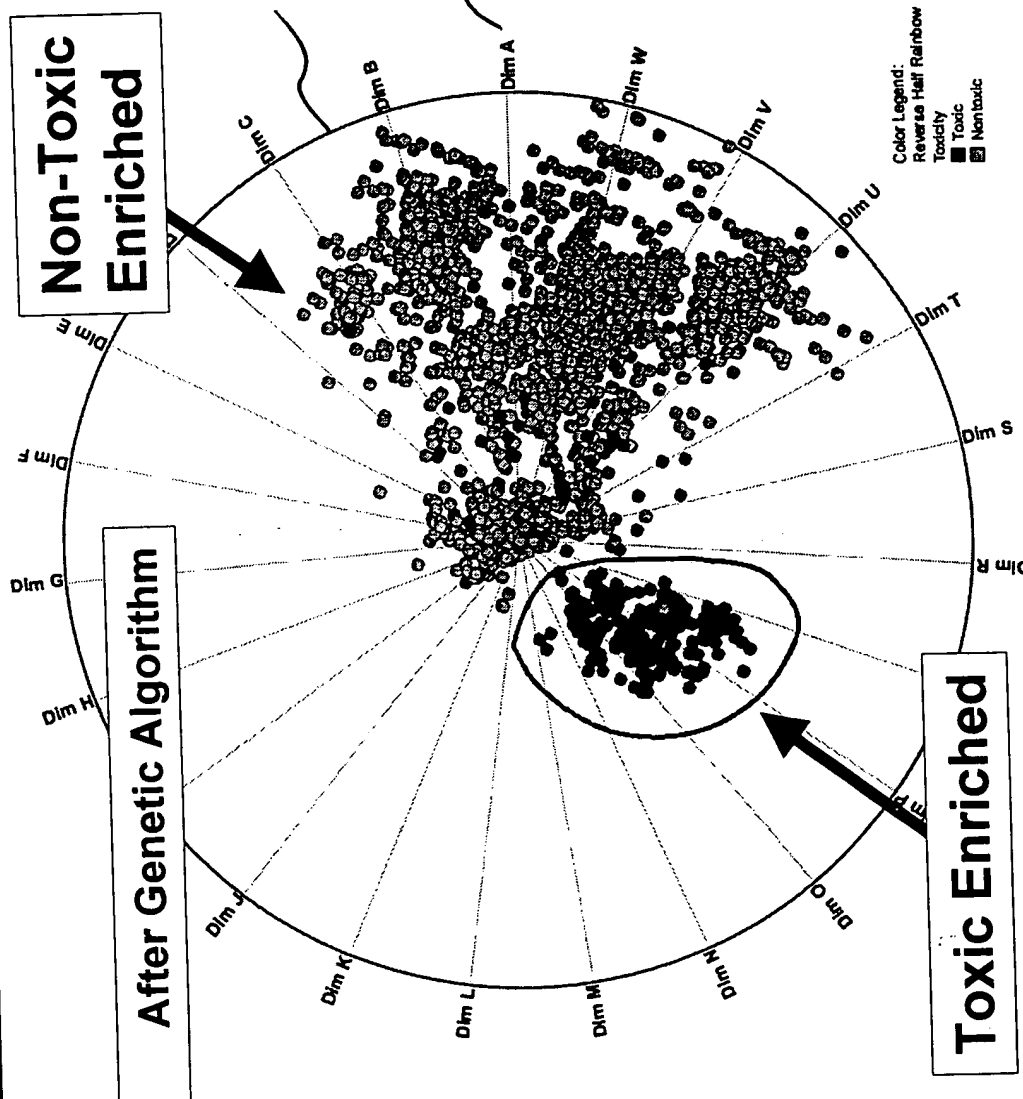


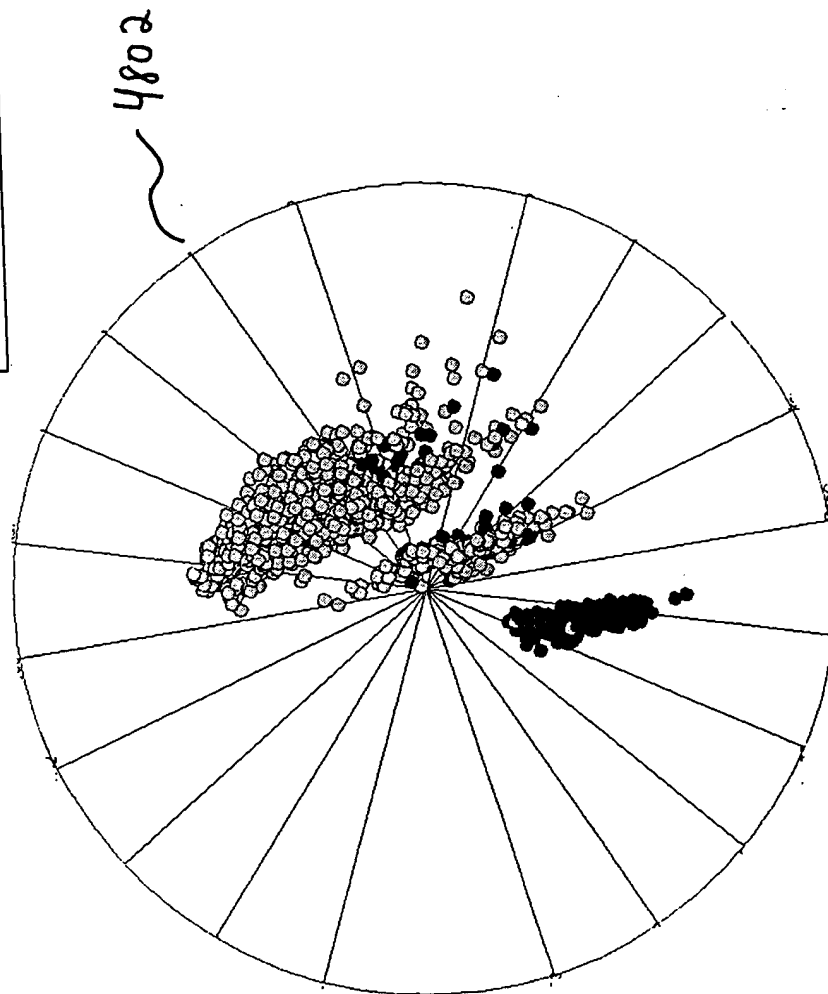
Figure 47

2284985

20040120-1692001

Toxic Distinction

After AP Algorithm



Color Legend
Half Rainbow
Non-Toxic
Toxic

Figure 48

2023661

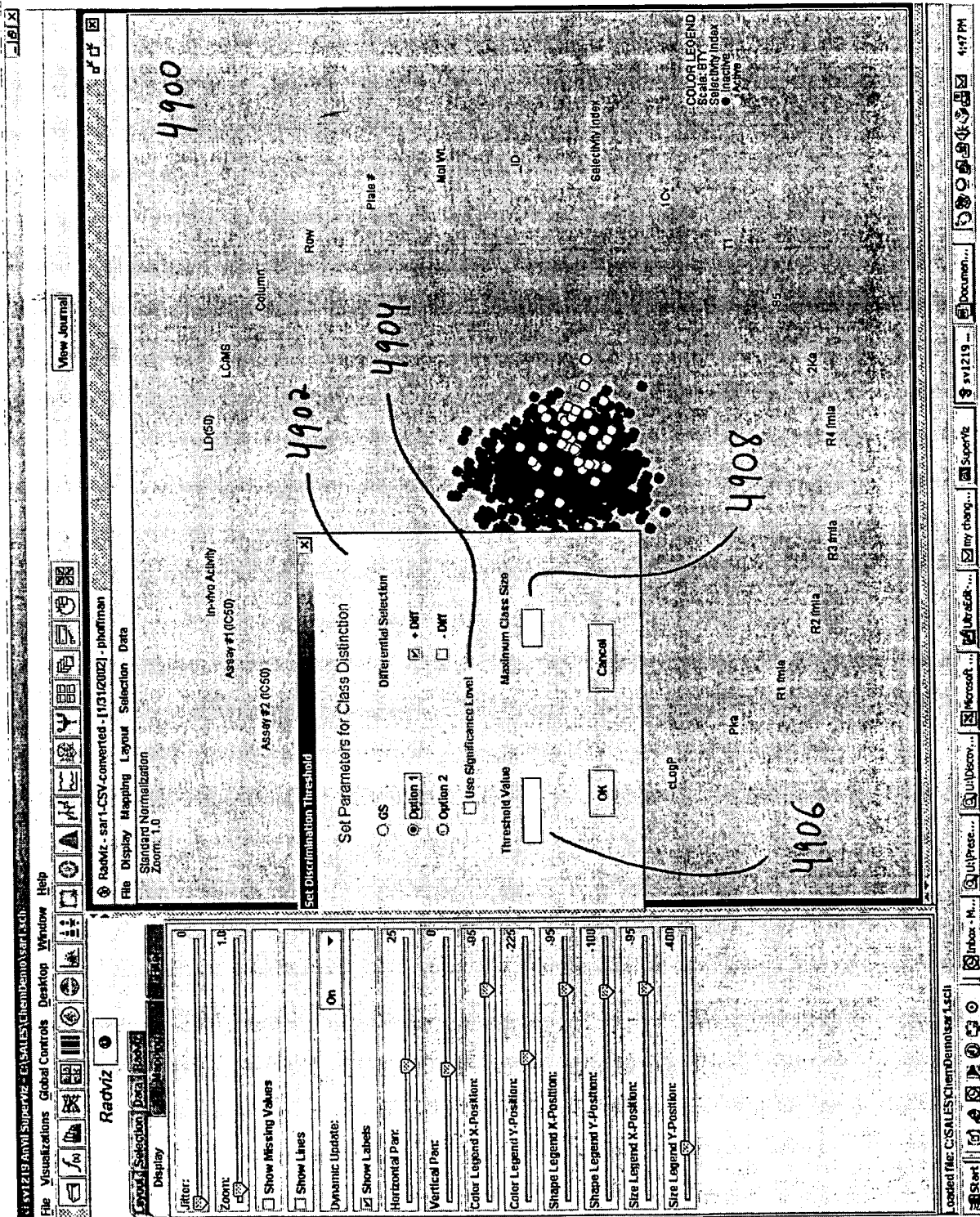


Figure 49